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**Toxic Potential of Nitroguanidine on
Reproduction and Fertility in Rats**

(Volume 1 of 2)
(Part 1)

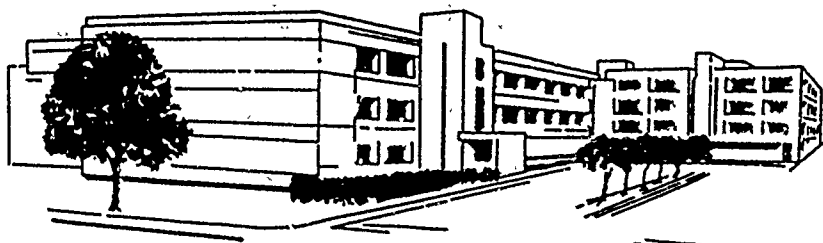
V.G. Coppes
C.L. Gomez
C.B. Clifford
S. Ferraris
and D.W. Korte, Jr.

MAMMALIAN TOXICOLOGY BRANCH
Division of Toxicology

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Toxic Potential of Nitroguanidine on Reproduction and Fertility in Rats, VG Coppes et al

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for William C. Corby, Col MC *9 May '90*

DONALD G. CORBY (date)
COL, MC
Commander

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19 (cont.) litter were selected to continue as parents for the next generation. Pups not selected and dams were euthanized. When the F₁ animals were 20 weeks of age the breeding procedure was repeated. The F₂ pups and dams were euthanized at weaning. Nitroguanidine caused a decrease in some of the weekly body weights in the high dose animals, but the decrease was not consistent throughout the study. Terminal body weights were lower for the high dose F₁ males and females and low dose F₁ females. There were no dose-related effects on clinical signs, mating, fertility, gestation, litter size, pup weights or survival. Histopathological examination of the reproductive organs on adult animals and gross examination of weanlings showed no lesions attributable to nitroguanidine in any of the generations.

ABSTRACT

The potential of nitroguanidine to produce reproductive and fertility toxicity was evaluated in ^{of} Sprague-Dawley rats. Nitroguanidine was mixed into the diet at 0, 1.3, 4.0, and 12.7 parts per thousand (ppt). In young adult rats these dose levels in ppt approximated the 100, 316, and 1000 mg/kg/day nitroguanidine dose levels in developmental toxicity studies in rats and rabbits. The diet was fed to the parental males and females starting at 56 to 58 days of age and continued throughout their lives and to the F₁ and F₂ generation animals. Parental males and females were paired for mating. All matings were within the same dose group. The parental males and females that did not breed were euthanized after the mating period. Litters were examined and weighed at 0, 4, 7, 14, and 21 days of age. On day 4 litters of more than 8 pups were culled to 8 remaining pups, 4 males and 4 females if possible. When the pups were weaned at 21 days, ~~of age~~ 1 male and 1 female from each litter were selected to continue as parents for the next generation. Pups not selected and dams were euthanized. When the F₁ animals were 20 weeks ^{old} of age the breeding procedure was repeated. The F₂ pups and dams were euthanized at weaning. Nitroguanidine caused a decrease in some of the weekly body weights in the high dose animals, but the decrease was not consistent throughout the study. Terminal body weights were lower for the the high dose F₁ males and females and low dose F₁ females. There were no dose-related effects on clinical signs, mating, fertility, gestation, litter size, pup weights or survival. Histopathological examination of the reproductive organs on adult animals and gross examination of weanlings showed no lesions attributable to nitroguanidine in any of the generations.

Key Words: ^{on physiology} Reproductive and Fertility Toxicity, Multigeneration Toxicity, Nitroguanidine, Rat

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PREFACE

TYPE REPORT: Reproductive and Fertility Toxicity Study

TESTING FACILITY: US Army Medical Research and Development Command
Letterman Army Institute of Research
Presidio of San Francisco, CA 94129-6800

SPONSOR: US Army Medical Research and Development Command
US Army Biomedical Research and Development Laboratory
Fort Detrick, MD 21701-5010
Project Officer: Gunda Reddy, PhD

PROJECT: 3E162720A835;
Work Unit 180; APC: TLBO

GLP STUDY NUMBER: 87012

STUDY DIRECTOR: LTC Don W. Korte, Jr., PhD, MSC
Diplomate, American Board Toxicology

PRINCIPAL INVESTIGATOR: Valerie G. Coppes, BS

CO-PRINCIPAL INVESTIGATOR: Charlotte L. Gomez, LATG

PATHOLOGIST: MAJ Charles B. Clifford, DVM, PhD, VC
Diplomate, American College of Veterinary Pathologists

REPORT AND DATA MANAGEMENT: A copy of the final report, study
protocol, SOPs, raw data, and an
aliquot of the test compound will be
retained in the LAIR Archives.

TEST SUBSTANCE: Nitroguanidine

INCLUSIVE STUDY DATES: 8 July 1987 - 23 May 1988

OBJECTIVE: The purpose of this study was to determine the
reproductive and fertility toxicity potential of
nitroguanidine in rats when administered to the
parental through the F2 generations.

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SIGNATURES OF PRINCIPAL SCIENTISTS
INVOLVED IN THE STUDY

We, the undersigned, declare that GLP Study 87012 was performed under our supervision, according to the procedures described herein, and that this report is an accurate record of the results obtained.

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Study Director

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REPLY TO
ATTENTION OF:

SGRD-ULZ-QA

6 March 1990

MEMORANDUM FOR RECORD

SUBJECT: GLP Compliance for GLP Study 87012

1. This is to certify that in relation to LAIR GLP Study 87012 the following inspections were made:

05 June 1987	- Protocol Review
21 July 1987	- Weigh/Dose
23 July 1987	- Diet Mixing
01 October 1987	- Insemination Determination
20 October 1987	- Necropsy of Males
26 October 1987	- Weigh/Examine Newborns
30 October 1987	- F ₁ Culling
05 November 1987	- Feed/Weigh Pups
10 November 1987	- Diet Mixing
02 February 1988	- Weigh Feeders/Males
02 February 1988	- Observations
03 February 1988	- Diet Mixing
15 March 1988	- F ₁ Mating

2. The institute report entitled "Toxic Potential of Nitroguanidine on Reproduction and Fertility in Rats," Toxicology Series 223, was audited on 13 February 1990.

Carolyn M. Lewis
CAROLYN M. LEWIS
Diplomate, American Board of
Toxicology
Quality Assurance Auditor

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Toxic Potential of Nitroguanidine on Reproduction and Fertility in Rats -- Coppes et al

INTRODUCTION

Nitroguanidine, a primary component of US Army triple-base propellants, is now produced in a Government-owned contractor-operated ammunition plant. The US Army Biomedical Research and Development Laboratory (USABRDL), as part of its mission to evaluate the environmental and health hazards of military-unique pollutants generated by US Army munitions-manufacturing facilities, conducted a review of the nitroguanidine data base and identified significant gaps in the toxicity data (1). The Division of Toxicology, LAIR, was tasked by USABRDL to develop a genetic and mammalian toxicity profile for nitroguanidine, related intermediates/by-products of its manufacture, and its environmental degradation products. The reproductive toxicity study described in this report represented one of three studies (developmental toxicity studies in the rat and rabbit are the others) in the reproductive toxicity assessment being conducted as part of the health effects profile of nitroguanidine.

Objective of the Study

The purpose of this study was to determine the reproductive and fertility toxicity potential of nitroguanidine in rats when administered to the parental through the F₂ generations.

Principle of the Test Method

The test substance is administered to parental animals prior to their mating, during the resultant pregnancies, and through the weaning of their F₁ offspring. The substance is then administered to selected F₁ offspring during their growth into adulthood, mating, and production of an F₂ generation, until the F₂ generation is 21 days old.

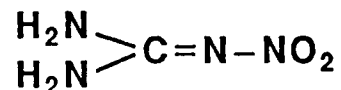
MATERIALS

Test Substance

Chemical Name: Nitroguanidine

Chemical Abstracts Service Registry No.: 556-88-7

Structural formula:



Molecular formula: $\text{CH}_4\text{N}_4\text{O}_2$

Other test substance information is presented in Appendix A.

Animal Data

One hundred forty female and 101 male six-week old Sprague-Dawley rats were obtained for the parental generation from Bantin-Kingman, Fremont, CA. Animals were identified by sequentially numbered metal eartags. At start of dosing the male body weight range was 217 g to 272 g and the female range was 166 g to 240 g. Additional animal data are presented in Appendix B.

Husbandry

Rats were housed individually in clear, polycarbonate shoe boxes in drawer rack cages. During breeding females were placed in the males' cages. Pups were housed with their dams until weaned at 21 days of age. Alpha-dri® bedding, a cellulose fiber from Shepherd Specialty Papers, Kalamazoo, MI, was used. Boxes and bedding were changed weekly or sooner if wet or dirty. Animals were fed Purina Certified Rodent Chow® 5002 Meal Form (Ralston Purina Company, St. Louis, MO). Water that had been purified by reverse osmosis (Technic Central Systems, Series 300) was provided by automatic water dispensers. Food and water were available *ad libitum* throughout the study. Food consumption was measured weekly except during cohabitation for breeding. No contaminants or naturally occurring substances were expected to influence the study.

The temperature ranged from 16°C - 20°C during the first week of acclimation. Thereafter, the temperature range was maintained at 20°C - 27°C with occasional spikes to 28°C. The relative humidity ranged from 35 - 54% with occasional spikes as high as 86% and as low as 21%. The photoperiod was 12 hours of light daily with a 1/2 hour dawn phase-in and a 1/4 hour dusk phase-out.

METHODS

Methods used are described in detail in OP-STX-79 "Reproductive and Fertility Toxicity Study" (2) and were in accordance with Environmental Protection Agency Good Laboratory Practice Guidelines (3) and Health Effects Testing Guidelines (4).

Acclimation

The parental animals were acclimatized for two weeks prior to start of study.

Group Assignment

Parental animals were assigned to dose groups by the weight-biased, stratified randomization method OP-STX-78 "Stratified Randomization" (5), on the Data General Eagle MV8000 computer. Two males and two females were selected for quality control necropsy according to OP-ISG-21 "Animal Randomization Procedure" (6). F₁- and F₂-generation animals were maintained in the same dose groups as their parents.

Dose Levels and Administration

Dose levels tested were 0, 1.3, 4.0, and 12.7 parts per thousand (ppt) of nitroguanidine in the feed. Control animals received feed without nitroguanidine. The parental animals were fed the feed mixed with nitroguanidine beginning at age 56 days for males and 58 days for females and continuing until scheduled necropsy. The F₁ generation received the dosed feed continuously from the time the pups started nibbling their dam's feed until their scheduled necropsies. In a similar manner, the F₂-generation pups had direct exposure to nitroguanidine since they also had access to their dam's feed before they were submitted for necropsy.

Compound Preparation and Analysis

The nitroguanidine was received as a dry white powder. All diet preparations were done in accordance with LAIR OP-STX-16 (7). A premix of nitroguanidine and Rodent Chow® was ground in a jar mill (Norton Inc., Akron, OH) using porcelain grinding pellets to break clumps. The premix was then mixed into the meal in a series of 1-, 2-, 4-, and 6-fold dilutions. Each dilution was mixed for 15 minutes in the jar mill. The dilutions were then sieved through a 10-mesh screen to ensure the grinding was complete and to remove the grinding pellets. The premix was then further mixed with meal to final concentration diets of 1.3, 4.0, and 12.7 ppt. Each of these diets was blended for at least 15 minutes using a Twin-Shell Dry Blender (Patterson-Kelley Co., Division of

Harsco Corp., East Stroudsburg, PA). Diet mixtures were prepared at least every three weeks throughout the study and analyzed for nitroguanidine concentration. All nitroguanidine diet mixtures were within 10.0% of target concentration and were homogeneous. The stability of nitroguanidine in the diet was demonstrated by the fact that, regardless of whether the diet mixtures were analyzed as soon as one week after preparation or as late as six months after preparation, the results are within the same range of target concentration. Analyses of each batch of the diet mixtures are presented in Appendix C.

Breeding

Mating was accomplished by placing each female with a single male from the same dose level until insemination occurred or one week had elapsed. If mating had not occurred after one week, the male was replaced. If mating had not occurred during the second week, the second male was replaced with a third male for one week. Females that had not been bred after 21 days were sent to necropsy. Females paired with males were checked each morning for the presense of sperm in the vaginal smear as evidence of insemination. The day sperm were present in the vaginal smear was designated "gestation day 0" for each female. This breeding procedure was followed for the parental and F₁ generations. Breeding began for the parental-generation animals when they were 18 weeks old and had been receiving the nitroguanidine diet for 10 weeks. The breeding procedure began for the F₁ generation animals when they were approximately 18 weeks old. The start of the breeding procedure for the parental-generation females was staggered over several weeks to provide a manageable workload of reading vaginal smears and examining new litters. Females were only mated with males from the same dose group. F₁-generation siblings were not mated.

Observations and Records

Animals were weighed, the feed was replaced, and food consumption was determined weekly. While replacing feed, the old and new feeders were weighed. Weekly food consumption was the difference between the new and old weights for each feeder. The males' feeders were weighed and changed on Tuesdays, and the females' feeders were weighed and changed on Wednesdays throughout the study. During breeding feeders of the paired animals were not weighed. Food consumption was not monitored for periods of less than one week. Feeders for bred females who were removed from the male's cage and F₁ pups who were caged individually at weaning were not weighed until the next regularly scheduled weighing day, i.e. Tuesday for males and Wednesday for females. During the later lactation period when the pups ate their dam's feed, the food consumption recorded included the entire litter, not just the

dam. Due to this increased consumption rate as the pups grew, additional feed was added and recorded mid-week as needed.

Observations were performed and recorded daily on each animal throughout the study. During the study periods when litters were being delivered, "walk through" observations were made frequently throughout the day. Females that were found delivering litters were recorded and observed for behavioral changes and signs of difficult or prolonged delivery.

Examination of Litters

The day of delivery was designated "lactation day 0" for each female. Each litter was observed as soon as possible after delivery. The dam was weighed. Each live pup was examined for external appearance, sexed, weighed, and marked with an identifying code. The male pups of each litter were numbered M1, M2, etc., and the female pups F1, F2, etc. Dead pups were examined for external appearance and preserved in Bouin's solution for subsequent visceral examination. Dead pups were numbered DM1, DM2, etc., and DF1, DF2, etc., for males and females, respectively.

During the lactation period (lactation day 0 to weaning on lactation day 21), litters were examined daily. Each pup was accounted for; dead, missing, and partially cannabilized pups were recorded. Pups found dead were fixed in Bouin's solution for subsequent visceral examination. The dam and each pup were weighed individually on lactation days 0, 4, 7, 14, and 21.

Litter Size Adjustment and F₁ Pup Selection

On lactation day 4, litter sizes were adjusted by culling pups to yield four male and four female pups per litter. Litters of eight or fewer were not adjusted. Whenever the sexual apportionment of a litter did not permit four of each sex, partial adjustments were made (for example, five males and three females) so a total of eight pups remained. Pups were selected for culling by using random number tables generated according to OP-ISG-21 "Animal Randomization Procedure" (6). Runts were not culled. However, if a pup randomly selected to continue the study was not progressing well and seemed unlikely to survive to weaning, that pup was culled.

One male and one female pup from each F₁ litter was selected to continue in the study as parents for the F₂ generation. Pups were selected by using random number tables generated according to OP-ISG-21 "Animal Randomization Procedure" (6). The F₁ pups selected to continue in the

study were assigned a new animal identification number and housed individually on lactation day 21 (weaning). They were identified by metal eartags.

Necropsy Procedure

A complete gross examination, with special attention directed to the organs of the reproductive system, was performed on all adult animals. The following organs and tissues from all parental and F₁ animals selected for mating were preserved: vagina; uterus; ovaries; testes; epididymus; seminal vesicles; prostate; and pituitary gland. Histopathological examination was performed on the high dose group and control group animals. A gross examination was performed on the weanling animals.

Parental and F₁ males were euthanized at the end of breeding. Females that did not breed after being housed with a male for 21 days and bred females that did not give birth by gestation day 24 were euthanized. Dams were euthanized after lactation day 21. F₁ pups not selected for breeding and all F₂ pups were euthanized after lactation day 21. Animals scheduled for euthanasia on weekends or holidays were held over until the next available working day.

Pups found dead and pups culled on lactation day 4 were fixed in Bouin's solution and subsequently examined under a dissecting microscope by the modified Wilson freehand razor blade sectioning technique (8).

Schedule of Study Events

The schedule of study events is in Appendix D.

Statistical Analysis

The body weights, food consumption, and reproductive data were processed by reproductive/teratology software obtained from Scientific Computer Consultants, Ringwood, NJ. Body weight, food consumption, pup and litter weights, length of gestation, number of pups delivered, and pups per litter were compared by one-way analysis of variance and Dunnett's test. The male and female reproductive indices, survival, and sex ratio were compared by Fisher's Exact 2-tailed test. Tests were run at the 0.05 and 0.01 level of significance and compared each dose group with the control group. Clinical observations and examinations on the pups at birth and after processing in Bouin's solution were listed for individual animals and tabulated by group.

Pathology data was processed by Xybion pathology software, Cedar Knolls, NJ. Statistical methods used are described in the pathologist's report (Appendix N).

Changes/Deviations

The study was accomplished according to the protocol and addenda with the following exceptions.

The dose levels specified in Addendum 2 were 0, 1.5, 4.8, and 15.0 ppt. However due to an error in the initial calculations for the diet mix, the dose levels used throughout the study were 0, 1.3, 4.0, and 12.7 ppt. The raw data reflect the intended dose levels rather than the actual dose administered. The slightly lower dosage level than originally intended did not adversely affect the study.

Several changes were made in the animal identification methods from those stated in the protocol. The F₁ pups were identified by writing the pup number on their backs with marking pen. The markings had to be redone every day or two to keep them legible. The pup number was tattooed on the tail when they were approximately 10 or 11 days old. At weaning, the pups selected to continue in the study were given new animal identification numbers and metal eartags. The F₂ pups also were identified by writing the pup number on their backs with marking pen. However, after the litter was culled on lactation day 4, the remaining pups were tattooed with an identification code on their paws and tails.

Raw Data and Final Report Storage

A copy of the final report, study protocol, addenda, raw data, SOPs, and an aliquot of test compound will be retained in the LAIR Archives.

RESULTS

Mortalities

One adult animal, an F₁ male from the low dose group, died during the study. The cause of death was not determined by necropsy.

Body Weights

Individual body weights are presented in Appendix E and the summary by group is in Table 1.

The individual body weights for parental males and females and F₁ generation males and females are in Appendices E-1, E-2, E-6, and E-7, respectively. The group summaries are in Tables 1a, 1b, 1f, and 1g. The week 0 body weights reported for the parental generation animals were obtained after the two week acclimation period just prior to starting

the animals on the dosed feed. There were no dose-related differences in the male or female body weights from the start of the study until mating in the parental generation. There were no dose-related differences in the male or female body weights from weaning until the tenth week post-weaning in the F₁ generation. From the tenth week until mating both the males and females in the F₁ high dose group were significantly lighter than the control group, initially at $P < 0.05$, then at $P < 0.01$.

Maternal gestation body weights are listed in Appendices E-3 and E-8 for the parental and F₁ generations, respectively. The summaries by group are presented in Tables 1c and 1h. The high dose group parental females were significantly lighter, $P < 0.05$, than the control group on gestation days 7, 14 and 21. The low dose group F₁ females were significantly, $P < 0.05$, lighter than the control group on gestation day 21. The high dose group F₁ females were significantly, $P < 0.01$, lighter than the control group on gestation days 14 and 21.

The body weights from those females which bred (sperm positive) but were not pregnant or were pregnant (confirmed by necropsy) but did not deliver a litter are listed in Appendices E-4 and E-9 for the parental and F₁ generations, respectively. The summaries by group are presented in Tables 1d and 1i. There were no dose-related differences in the body weights of the parental generation animals. The mid dose group F₁ females were significantly lighter than the control group on gestation days 14 and 21. However, the number of animals in the "bred did not deliver" category was small and varied between groups.

The maternal postpartum body weights are listed in Appendices E-5 and E-10 for the parental and F₁ generations, respectively. The summaries by group are presented in Tables 1e and 1j. The parental generation high dose females were significantly lighter than the controls on lactation days 0, $P < 0.05$, and 14, $P < 0.01$. The F₁ generation high dose females were significantly lighter than the controls on days 0 and 7 at $P < 0.01$ and on day 14 at $P < 0.05$.

Food Consumption

Individual weekly food consumption is presented in Appendix F and the summary by group is in Table 2. Occasionally throughout the study, feeders were tipped or wet and no weekly weight was recorded for that animal.

Food consumption of the high dose parental females was significantly lower, $p < 0.05$, than the controls for weeks 2 and 7. Food consumption of the F₁ males was significantly lower, $p < 0.05$, than the controls for the low dose group on

week 3 and for the high dose group on weeks 3, 4, and 10. The high dose group F₁ female food consumption was lower, $p < 0.05$, than the controls for week 3.

Clinical Signs

Individual clinical signs are reported in Appendices G-1, G-2, G-3, and G-4 for parental males and females and F₁ males and females, respectively. The summaries by dose group are found in Tables 3a, 3b, 3c, and 3d. Red stains, particularly on the nose, and hair loss from limbs occurred frequently in all dose groups, both sexes, and both generations. None of the clinical signs were dose related. Both males and females of all dose groups in the F₁ generation had a higher incidence of irritability than the parental animals.

Reproductive Data

The male breeding data is found in Appendices H-1 and H-2 for parental and F₁ paired matings. Some males were used for multiple breedings. The summaries by dose group are in Tables 4a and 4b for parental and F₁ matings, respectively. There were no dose-related differences.

Individual delivery and litter data, the number of pups born live and dead, the number of pups surviving on days 0, 4, 7, 14, and 21, and the length of gestation, are in Appendices I-1 and I-2 for the parental and F₁ generation litters, respectively. The individual litter pup sex and post-partum status are in Appendices J-1 and J-2 for the parental and F₁ generation litters, respectively. Tables 5a and 5b contain the summaries of reproductive, delivery, and litter data by dose groups. There were no dose-related differences in the mating, female fertility, gestation, or live birth indices, length of gestation, number of live pups per litter, or sex ratio in either generation. The low dose parental litters had significantly, $P < 0.01$, fewer pups surviving 4 days (viability index) and the low and mid dose group litters had significantly, $P < 0.01$, fewer pups surviving 21 days (lactation index) than the control litters. The high dose group had significantly, $P < 0.05$, more pups dying, missing, and/or cannibalized during lactation days 8 - 14 than the control litters. However, there were no differences in the parental high dose group viability or lactation indices compared to the controls. The mid dose group F₁ generation litters had significantly, $P < 0.01$, more pups surviving 4 days than the control litters.

Pup Body Weights

Individual pup body weights and litter means for lactations days 0, 4, 7, 14, and 21 are in Appendices K-1 and K-2 for the parental and F₁ generation litters, respectively.

The average pup body weight/litter data are presented in Appendices L-1 and L-2 for the parental and F₁ generation litters, respectively. The summaries by dose group are presented in Tables 6a and 6b. Nitroguanidine administration did not affect the pup weights, with one exception. The male pups in the high dose group parental litters were significantly lighter than the control litters on day 7 only. Since there was no significant difference in weights for these pups on any of the other weighing days (day 0 to day 21) this difference was considered an aberration.

Examination of Pups

The findings from examination of pups soon after delivery are presented in Appendices M-1, and M-2 for the F₁ and F₂ generations, respectively. The summaries by dose group are in Tables 7a and 7b. The incidence of findings was extremely low. Findings were varied and occurred in all dose groups.

Pups that were found dead throughout the 21 day lactation period and pups that were culled on day 4 were preserved in Bouin's solution for subsequent visceral examination. Findings from the visceral examinations are in Appendices N-1 and N-2 for the F₁ and F₂ generations, respectively. The summaries by dose group are in Tables 8a and 8b. Individual findings are tabulated by the number of pups with each finding and by the number of litters in which the finding occurred. Dilated renal pelvis of slight or moderate severity occurred in low frequency in all dose groups of both generations. Dilated renal pelvis of marked severity occurred in slightly higher frequency in the F₂ generation than in the F₁ generation and in the F₂ generation occurred in more pups (but not more litters) in the high dose group than in the controls or lower dose groups. Underdeveloped kidneys in which the medulla was absent, cortex thin, and cavity enlarged occurred in slightly higher frequency in the F₂ generation than in the F₁ generation. It was not dose related. "Oviduct not straight" was the description used for oviducts which were bent, twisted, zig-zagged, or curled over themselves. "Ectopic" was used to describe a kidney or ovary which was slightly out of place in the body. The only major malformations occurred in one pup in the low dose group in the F₂ generation which was dead at the initial litter examination. Visceral findings on this pup were anophthalmia, short jaw, small left atria, septum of the heart ventricles absent, and tissue adema. The other

visceral findings in this study were slight variations from normal or slightly delayed development.

Pathology

No lesions were observed which were attributable to treatment. Lesions which were observed were generally slight to mild, and were considered to be incidental findings of little or no clinical significance. Terminal body weights of the F₁ females in the low and high dose groups and F₁ males in the high dose group were significantly lower than the control groups. The pathologist report is presented in Appendix O.

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TABLE 1a
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION

MALES	WEEK	GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN S.D. N	MEAN BODY WEIGHT VALUES -- grams			
				CONTROL		LOW DOSE	
				GRP 1 0 PPT	GRP 2 1.3 PPT	GRP 3 4 PPT	HIGH DOSE GRP 4 12.7 PPT
	0			244.20 10.80 25	246.84 13.65 25	247.12 12.70 25	247.00 14.91 24
	1			282.20 14.24 25	286.12 17.02 25	283.92 13.66 25	279.29 18.69 24
	2			318.36 17.49 25	314.24 21.59 25	312.36 17.00 25	309.79 22.55 24
	3			350.28 20.10 25	344.76 24.43 25	343.56 20.61 25	338.29 26.53 24
	4			372.24 22.37 25	365.92 26.17 25	364.60 25.04 25	360.04 32.68 24
	5			395.16 24.65 25	387.72 30.07 25	384.32 27.95 25	382.04 34.24 24
	6			416.88 27.41 25	408.92 32.46 25	404.80 30.77 25	403.17 36.63 24
	7			434.12 29.34 25	428.52 34.67 25	424.64 34.63 25	423.42 39.71 24
	8			460.44 32.40 25	453.88 37.57 25	448.20 36.29 25	447.75 42.45 24
	9			475.64 33.94 25	468.40 39.27 25	464.36 39.56 25	463.92 45.19 24
	10			483.00 35.39 25	477.28 40.65 25	471.36 44.79 25	475.50 45.72 24

..... SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

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 TABLE 1a, CONTINUED
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 MALES
 MEAN BODY WEIGHT VALUES -- grams

WEEK	GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL			LOW DOSE		MID DOSE		HIGH DOSE	
		GRP 1 0 PPT	GRP 2 1.3 PPT	GRP 3 4 PPT	GRP 4 12.7 PPT	GRP 5 25 PPT	GRP 6 40 PPT	GRP 7 60 PPT	GRP 8 120 PPT	GRP 9 240 PPT
WEEK 11	MEAN	487.80	481.64	480.80	477.00					
	S.D.	37.55	42.56	44.11	46.92					
	N	25	25	25	24					
WEEK 12	MEAN	494.96	486.84	486.36	486.21					
	S.D.	37.38	42.83	47.03	49.16					
	N	25	25	25	24					
WEEK 13	MEAN	505.64	499.80	498.44	501.54					
	S.D.	39.60	42.48	45.52	47.37					
	N	25	25	25	24					

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

87012P
 TABLE 1b
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 MEAN BODY WEIGHT VALUES -- grams

FEMALES	WEEK	GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN S.D. N	MEAN BODY WEIGHT VALUES -- grams				LOW DOSE		MID DOSE		HIGH DOSE	
				CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT	LOW DOSE GRP 3 4 PPT	LOW DOSE GRP 4 12.7 PPT						
	WEEK 0			201.29 12.35 34	202.51 16.17 35	201.76 13.59 34	203.44 14.77 34						
	WEEK 1			212.88 21.74 34	213.60 21.00 35	209.03 24.54 34	209.74 18.16 34						
	WEEK 2			227.32 16.01 34	227.49 21.75 35	224.56 18.09 34	219.59 23.72 34						
	WEEK 3			234.85 16.37 34	233.49 21.68 35	231.24 20.78 34	226.50 18.96 34						
	WEEK 4			248.00 18.75 34	245.54 23.75 35	243.47 22.70 34	238.24 20.16 34						
	WEEK 5			253.12 20.59 34	249.20 25.64 35	246.00 23.58 34	242.79 21.62 34						
	WEEK 6			258.56 21.22 34	255.66 25.94 35	252.97 24.25 34	249.00 21.98 34						
	WEEK 7			267.12 22.75 34	265.00 26.34 35	260.44 25.44 34	256.71 22.70 34						
	WEEK 8			275.91 24.08 34	275.09 27.56 35	271.62 27.65 34	264.68 25.06 34						
	WEEK 9			277.97 23.81 34	277.49 28.95 35	271.88 28.74 34	266.50 25.47 34						
	WEEK 10			283.85 25.69 34	284.49 29.17 35	277.76 29.03 34	271.85 24.42 34						

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

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 TABLE 1b CONTINUED
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 MEAN BODY WEIGHT VALUES -- grams

FEMALES	WEEK	GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT		MID DOSE GRP 3 4 PPT		HIGH DOSE GRP 4 12.7 PPT	
				MEAN	S.D. N	MEAN	S.D. N	MEAN	S.D. N
	11		288.30 28.96 23	291.04 29.81 26	282.86 31.47 21	276.92 25.03 24			
	12		292.82 29.11 17	302.88 31.78 16	284.00 24.56 11	283.23 26.60 13			
	13		297.17 29.28 6	341.00a 25.77 5	303.00 22.74 5	292.25 29.57 4			
	14		301.80 32.87 5	341.50 27.58 2	295.75 14.24 4	303.00 0.00 1			

 SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

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TABLE 1c
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
MEAN MATERNAL GESTATION BODY WEIGHTS (GRAMS)

GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT	MID DOSE GRP 3 4 PPT	HIGH DOSE GRP 4 12.7 PPT
DAY 0	MEAN S.D. H	288.23 25.88 26	283.93 30.06 27	277.17 28.54 24
DAY 7	MEAN S.D. N	318.15 29.26 26	309.00 29.87 27	304.67 28.74 24
DAY 14	MEAN S.D. N	341.65 26.64 26	331.00 33.38 27	327.96 31.52 24
DAY 21	MEAN S.D. N	417.56 32.82 25	395.11 44.76 27	398.00 41.92 24
				267.58 28.66 19
				293.53a 26.19 19
				316.53a 26.80 19
				383.67a 29.37 18

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

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TABLE 1d
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION; BRED, DID NOT DELIVER
 MEAN MATERNAL GESTATION BODY WEIGHTS (GRAMS)

DAY	GROUP NUMBER DOSE LEVEL	MEAN S.D. N	CONTROL			LOW DOSE			MID DOSE			HIGH DOSE		
			GRP 1	0 PPT		GRP 2	1.3 PPT		GRP 3	4 PPT		GRP 4	12.7 PPT	
DAY 0		MEAN	273.33			289.33			266.33			275.21		
		S.D.	26.26			34.49			44.95			28.21		
		N	6			6			9			14		
DAY 7		MEAN	296.50			314.17			298.67			296.79		
		S.D.	25.59			32.60			53.51			26.05		
		N	6			6			9			14		
DAY 14		MEAN	301.33			321.67			309.33			307.14		
		S.D.	31.84			35.98			47.37			30.29		
		N	6			6			9			14		
DAY 21		MEAN	297.50			331.00			308.22			305.14		
		S.D.	30.42			37.79			49.07			35.44		
		N	6			6			9			14		

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

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TABLE 1e
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
MEAN MATERNAL POSTPARTUM BODY WEIGHTS (GRAMS)

DAY	GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT	MID DOSE GRP 3 4 PPT	HIGH DOSE GRP 4 12.7 PPT
DAY 0	MEAN	319.23	309.70	305.68	296.11a
	S.D.	30.03	31.93	28.45	29.97
	N	26	27	25	19
DAY 7	MEAN	319.04	311.18	310.96	299.05
	S.D.	30.92	30.26	24.26	34.18
	N	26	22	23	19
DAY 14	MEAN	326.88	317.57	313.70	299.78b
	S.D.	29.33	31.26	23.34	24.32
	N	25	21	23	18
DAY 21	MEAN	312.96	305.90	302.96	295.42
	S.D.	25.96	27.24	22.55	22.95
	N	26	21	23	19

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

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TABLE 1f
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

MALES	WEEK	GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN BODY WEIGHT VALUES -- grams			LOW DOSE GRP 2 1.3 PPT	MID DOSE GRP 3 4 PPT	HIGH DOSE GRP 4 12.7 PPT
			CONTROL GRP 1 0 PPT	MEAN S.D. N	MEAN S.D. N			
	WEEK 0		60.00 8.49 4			46.00 7.07 2	58.80 6.87 5	50.67 15.31 3
	WEEK 1		75.40 21.83 15			75.50 14.07 6	83.82 17.80 11	74.75 17.42 8
	WEEK 2		102.09 41.30 22			83.72 31.79 18	102.40 40.60 20	88.88 37.81 16
	WEEK 3		155.04 47.75 23			129.10 43.29 20	155.10 45.00 20	131.50 48.96 18
	WEEK 4		202.88 62.45 25			177.10 54.47 21	195.09 65.30 23	176.11 61.01 19
	WEEK 5		257.58 71.95 26			240.33 54.72 21	254.17 68.63 23	232.74 65.06 19
	WEEK 6		309.81 73.74 26			295.86 52.85 21	306.13 67.73 23	286.37 62.83 19
	WEEK 7		358.92 60.88 26			344.00 47.78 21	349.30 58.19 23	330.68 56.29 19
	WEEK 8		398.77 52.93 26			385.81 47.48 21	389.13 52.46 23	373.79 42.67 19
	WEEK 9		436.12 47.05 26			419.95 44.98 21	429.57 44.07 23	404.00 45.63 19
	WEEK 10		463.27 40.95 26			449.33 45.91 21	453.70 42.28 23	429.11a 42.65 19

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

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TABLE 1f cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

WEEK	GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN BODY WEIGHT VALUES -- grams				F1 GENERATION			
		CONTROL		LOW DOSE		MID DOSE		HIGH DOSE	
		GRP 1 0 PPT		GRP 2 1.3 PPT		GRP 3 4 PPT		GRP 4 12.7 PPT	
WEEK 11	MEAN S.D. N	493.04 37.74 26		475.71 46.08 21		482.30 42.74 23		454.47b 40.27 19	
WEEK 12	MEAN S.D. N	513.50 36.21 26		502.38 52.09 21		499.87 42.59 23		475.63a 39.82 19	
WEEK 13	MEAN S.D. N	535.77 33.68 26		520.19 51.16 21		521.78 44.78 23		494.11b 38.28 19	
WEEK 14	MEAN S.D. N	552.92 33.50 26		538.90 53.63 21		536.52 44.09 23		511.11b 38.09 19	
WEEK 15	MEAN S.D. N	570.23 31.54 26		554.38 56.16 21		558.35 41.48 23		527.95b 37.69 19	
WEEK 16	MEAN S.D. N	587.00 34.13 26		572.38 58.56 21		567.43 46.51 23		540.68b 38.55 19	
WEEK 17	MEAN S.D. N	591.73 36.55 26		577.24 57.83 21		568.87 47.93 23		544.58b 36.23 19	
WEEK 18	MEAN S.D. N	593.69 36.28 26		578.60 54.89 20		576.09 46.80 23		549.58b 39.40 19	

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

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TABLE 19
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

FEMALES		MEAN BODY WEIGHT VALUES -- grams									
		GROUP NAME GROUP NUMBER DOSE LEVEL		CONTROL		LOW DOSE		MID DOSE		HIGH DOSE	
				GRP 1 0 PPT	GRP 2 1.3 PPT	GRP 3 4 PPT	GRP 4 12.7 PPT				
WEEK	0	MEAN S.D. N	58.83 12.78 6	49.50 7.78 2	58.50 9.20 6		49.00 12.81 4				
WEEK	1	MEAN S.D. N	74.93 24.46 15	66.29 17.74 7	79.50 22.30 12		69.00 18.13 9				
WEEK	2	MEAN S.D. N	98.55 37.07 22	79.29 26.30 17	94.15 34.50 20		82.71 29.53 17				
WEEK	3	MEAN S.D. N	138.13 39.87 23	105.32 ^a 37.42 22	134.60 34.99 20		117.17 33.81 18				
WEEK	4	MEAN S.D. N	160.81 48.48 26	143.59 35.18 22	156.65 42.82 23		147.16 35.87 19				
WEEK	5	MEAN S.D. N	192.15 44.52 26	180.75 28.88 20	186.17 40.84 23		177.68 31.51 19				
WEEK	6	MEAN S.D. N	215.62 39.87 26	203.25 26.31 20	209.43 33.55 23		200.26 26.10 19				
WEEK	7	MEAN S.D. N	237.31 35.73 26	224.35 26.10 20	229.17 28.33 23		218.16 22.96 19				
WEEK	8	MEAN S.D. N	254.62 32.69 26	244.05 28.11 20	247.52 26.97 23		237.58 20.11 19				
WEEK	9	MEAN S.D. N	270.12 28.86 26	257.45 26.88 20	262.74 26.54 23		257.21 33.58 19				
WEEK	10	MEAN S.D. N	282.54 25.02 26	266.95 29.29 20	272.65 24.97 23		260.47 ^a 17.00 19				

..... SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

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 TABLE 1g cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION

FEMALES	GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN BODY WEIGHT VALUES -- grams			LOW DOSE			MID DOSE			HIGH DOSE		
		CONTROL			GRP 2			GRP 3			GRP 4		
		0 PPT			1.3 PPT			4 PPT			12.7 PPT		
WEEK 11	MEAN	294.92			282.80			285.09			270.95a		
	S.D.	25.99			28.32			28.81			20.17		
	N	26			20			23			19		
WEEK 12	MEAN	300.58			288.05			292.17			278.32a		
	S.D.	27.60			28.25			25.57			18.28		
	N	26			20			23			19		
WEEK 13	MEAN	305.35			295.15			295.78			285.42a		
	S.D.	30.04			28.35			25.34			17.09		
	N	26			20			23			19		
WEEK 14	MEAN	320.15			304.55			305.35			291.95b		
	S.D.	22.81			27.48			27.29			20.51		
	N	26			20			23			19		
WEEK 15	MEAN	323.88			310.60			309.30			298.53b		
	S.D.	23.21			28.03			26.66			18.66		
	N	26			20			23			19		
WEEK 16	MEAN	329.77			311.80			312.52			301.47b		
	S.D.	23.46			28.22			29.38			19.94		
	N	26			20			23			19		
WEEK 17	MEAN	330.70			311.33			317.27			307.50a		
	S.D.	22.77			23.58			32.20			21.84		
	N	23			18			22			16		
WEEK 18	MEAN	346.71			324.75			329.27			312.50a		
	S.D.	19.73			28.79			30.38			20.14		
	N	7			4			11			8		
WEEK 19	MEAN	355.00			332.67			343.50			338.00		
	S.D.	19.97			19.55			38.91			14.72		
	N	7			3			8			4		

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

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TABLE 1h
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANTIDINE
F1 GENERATION
MEAN MATERNAL GESTATION BODY WEIGHTS (GRAMS)

DAY	GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN MATERNAL GESTATION BODY WEIGHTS (GRAMS)			
		CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT	MID DOSE GRP 3 4 PPT	HIGH DOSE GRP 4 12.7 PPT
DAY 0	MEAN	323.59	311.84	323.00	302.12
	S.D.	30.05	26.63	32.60	24.28
	N	17	19	15	17
DAY 7	MEAN	354.24	337.47	354.67	331.06
	S.D.	28.95	27.10	32.34	24.96
	N	17	19	15	17
DAY 14	MEAN	383.82	365.32	385.00	353.71b
	S.D.	29.89	25.70	32.37	22.64
	N	17	19	15	17
DAY 21	MEAN	456.76	426.37a	459.60	408.59b
	S.D.	32.71	35.49	41.83	30.88
	N	17	19	15	17

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

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TABLE 1i
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION; BRED, DID NOT DELIVER
 MEAN MATERNAL GESTATION BODY WEIGHTS (GRAMS)

DAY	GROUP NUMBER DOSE LEVEL	MEAN S.D. N	CONTROL			LOW DOSE		MID DOSE		HIGH DOSE	
			GRP 1 0 PPT			GRP 2 1.3 PPT		GRP 3 4 PPT		GRP 4 12.7 PPT	
DAY 0		MEAN S.D. N	339.00			353.00		306.25		324.00	
			18.85	7		0.00	1	14.06	4	29.70	2
DAY 7		MEAN S.D. N	369.29			384.00		335.50		342.00	
			24.37	7		0.00	1	14.27	4	19.80	2
DAY 14		MEAN S.D. N	387.71			395.00		343.50a		367.50	
			21.48	7		0.00	1	16.52	4	9.19	2
DAY 21		MEAN S.D. N	392.14			400.00		338.00b		342.50	
			21.28	7		0.00	1	20.51	4	34.65	2

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

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TABLE 1j
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 MEAN MATERNAL POSTPARTUM BODY WEIGHTS (GRAMS)

DAY	GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL			LOW DOSE		MID DOSE		HIGH DOSE	
		GRP 1 0 PPT	GRP 1 0 PPT	GRP 1 0 PPT	GRP 2 1.3 PPT	GRP 2 1.3 PPT	GRP 3 4 PPT	GRP 3 4 PPT	GRP 4 12.7 PPT	GRP 4 12.7 PPT
DAY 0	MEAN	362.29			340.44		352.00		330.18b	
	S.D. N	27.38 17			30.34 18		37.60 16		21.16 17	
DAY 7	MEAN	361.63			339.47		357.19		320.54b	
	S.D. N	24.97 16			28.82 17		36.87 16		32.39 13	
DAY 14	MEAN	360.00			339.35		357.38		330.69a	
	S.D. N	22.75 15			25.92 17		35.42 16		19.73 13	
DAY 21	MEAN	333.67			321.65		342.00		322.08	
	S.D. N	31.02 15			23.47 17		33.45 16		20.26 13	

..... SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

87012P
TABLE 2a
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE

MALES	GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN FOOD CONSUMPTION -- GRAMS	PARENTAL GENERATION			F1 GENERATION		
			CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT	MID DOSE GRP 3 4 PPT	HIGH DOSE GRP 4 12.7 PPT		
WEEK 0	MEAN S.D. N		158.5 13.1 25	156.3 11.6 25	156.7 10.7 24	151.3 10.7 24		
WEEK 1	MEAN S.D. N		164.8 13.9 25	162.4 15.8 25	164.6 10.6 25	164.7 13.3 24		
WEEK 2	MEAN S.D. N		171.6 14.1 25	169.9 11.3 25	170.1 12.9 25	166.1 12.4 24		
WEEK 3	MEAN S.D. N		177.6 15.8 25	174.3 15.8 25	175.7 13.1 24	172.0 17.0 24		
WEEK 4	MEAN S.D. N		176.6 16.4 25	172.1 15.1 25	171.6 15.5 25	174.0 12.5 24		
WEEK 5	MEAN S.D. N		171.7 24.4 24	173.5 15.6 25	171.3 18.0 24	172.8 15.7 24		
WEEK 6	MEAN S.D. N		176.2 15.2 25	178.9 14.9 23	180.1 19.7 24	181.7 16.1 23		
WEEK 7	MEAN S.D. N		179.9 16.6 25	177.0 16.7 25	176.0 15.9 24	176.7 15.0 24		
WEEK 8	MEAN S.D. N		181.8 15.5 25	181.0 15.7 25	183.1 17.2 25	183.0 15.9 24		
WEEK 9	MEAN S.D. N		174.7 16.1 25	177.2 17.6 25	178.8 15.7 25	176.7 23.7 24		

..... SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

87012P
TABLE 2b
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION

FEMALES	GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN FOOD CONSUMPTION -- GRAMS			LOW DOSE GRP 2 1.3 PPT			MID DOSE GRP 3 4 PPT			HIGH DOSE GRP 4 12.7 PPT		
		CONTROL GRP 1 0 PPT	MEAN	S.D. N	CONTROL GRP 1 0 PPT	MEAN	S.D. N	CONTROL GRP 1 0 PPT	MEAN	S.D. N	CONTROL GRP 1 0 PPT	MEAN	S.D. N
WEEK 0		118.2 18.3 34	118.2	18.3 34	119.4 17.3 35	119.4	17.3 35	112.9 21.6 34	112.9	21.6 34	110.1 17.7 34	110.1	17.7 34
WEEK 1		127.3 11.0 34	127.3	11.0 34	126.4 13.4 35	126.4	13.4 35	126.4 13.9 34	126.4	13.9 34	119.2 21.1 34	119.2	21.1 34
WEEK 2		129.2 10.2 33	129.2	10.2 33	124.8 13.4 35	124.8	13.4 35	122.9 14.4 34	122.9	14.4 34	121.0a 14.9 34	121.0a	14.9 34
WEEK 3		124.9 11.4 34	124.9	11.4 34	123.1 14.4 35	123.1	14.4 35	122.5 13.9 34	122.5	13.9 34	120.7 13.5 34	120.7	13.5 34
WEEK 4		125.6 13.8 33	125.6	13.8 33	122.2 15.2 35	122.2	15.2 35	120.4 14.0 34	120.4	14.0 34	119.6 13.0 34	119.6	13.0 34
WEEK 5		122.1 11.8 34	122.1	11.8 34	119.3 12.6 35	119.3	12.6 35	121.5 13.5 33	121.5	13.5 33	120.5 13.1 33	120.5	13.1 33
WEEK 6		121.8 13.7 34	121.8	13.7 34	125.1 12.7 35	125.1	12.7 35	120.7 13.3 34	120.7	13.3 34	121.5 14.0 34	121.5	14.0 34
WEEK 7		125.8 16.0 34	125.8	16.0 34	124.3 14.3 35	124.3	14.3 35	123.6 12.9 34	123.6	12.9 34	117.8a 12.4 34	117.8a	12.4 34
WEEK 8		122.2 12.7 34	122.2	12.7 34	127.4 13.5 35	127.4	13.5 35	122.7 12.9 34	122.7	12.9 34	120.2 15.7 34	120.2	15.7 34
WEEK 9		117.8 19.5 33	117.8	19.5 33	120.6 13.0 34	120.6	13.0 34	120.1 13.4 32	120.1	13.4 32	116.8 12.2 33	116.8	12.2 33
WEEK 10		115.6 8.8 10	115.6	8.8 10	119.8 10.8 8	119.8	10.8 8	121.7 13.4 6	121.7	13.4 6	118.0 12.6 6	118.0	12.6 6

..... SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

87012P
 TABLE 2c
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 MEAN MATERNAL GESTATION FOOD CONSUMPTION

GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT		MID DOSE GRP 3 4 PPT		HIGH DOSE GRP 4 12.7 PPT	
		MEAN	S.D. N	MEAN	S.D. N	MEAN	S.D. N
MATERNAL FOOD CONSUMPTION -- GRAMS							
DAYS 0 TO 7		139.8	23.3 5	127.8	25.8 5	138.8	14.7 5
DAYS 7 TO 14		151.8	16.4 26	145.0	15.5 27	147.3	13.3 24
DAYS 14 TO 21		152.6	21.2 26	146.3	18.4 27	153.9	15.4 24
DAYS 21 TO 28		148.7	20.2 24	142.4	28.3 26	148.1	31.0 23
						148.2	28.3 18

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

87012PB

TABLE 2d

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION; BRED, DID NOT DELIVER
MEAN MATERNAL GESTATION FOOD CONSUMPTION

MATERNAL FOOD CONSUMPTION -- GRAMS				
GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT	MID DOSE GRP 3 4 PPT	HIGH DOSE GRP 4 12.7 PPT
DAYS 0 TO 7	MEAN S.D. N	138.0 0.0 1	129.0 0.0 1	144.0 0.0 1
DAYS 7 TO 14	MEAN S.D. N	139.5 20.6 6	141.0 17.7 6	136.1 20.0 14
DAYS 14 TO 21	MEAN S.D. N	127.3 26.6 6	133.2 26.9 9	123.1 22.8 14
DAYS 21 TO 28	MEAN S.D. N	111.0 19.2 5	122.4 19.8 5	115.2 13.0 10
SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.				

87012P

TABLE 2e

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE

PARENTAL GENERATION

MEAN MATERNAL POSTPARTUM FOOD CONSUMPTION

MATERNAL FOOD CONSUMPTION -- GRAMS				
GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT	MID DOSE GRP 3 4 PPT	HIGH DOSE GRP 4 12.7 PPT
DAYS 0 TO 7	MEAN S.D. N	144.00 98.99 2	188.67 6.56 3	187.50 20.51 2
DAYS 7 TO 14	MEAN S.D. N	287.82 107.00 22	278.00 47.98 23	275.00 80.49 18
DAYS 14 TO 21	MEAN S.D. N	346.30 108.89 20	381.96 144.05 23	342.28 85.96 18

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

87012F1
 TABLE 2f
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 MALES
 MEAN FOOD CONSUMPTION -- GRAMS

WEEK	GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN S.D. N	CONTROL			LOW DOSE			MID DOSE			HIGH DOSE		
			GRP 1 0 PPT	GRP 2 1.3 PPT	GRP 3 4 PPT	GRP 1 0 PPT	GRP 2 1.3 PPT	GRP 3 4 PPT	GRP 1 0 PPT	GRP 2 1.3 PPT	GRP 3 4 PPT	GRP 1 0 PPT	GRP 2 1.3 PPT	GRP 3 4 PPT
WEEK 0			83.8 6.7 4	77.5 9.2 2	80.6 6.7 5							72.0 13.1 3		
WEEK 1			93.3 25.4 15	97.5 14.0 6	102.1 17.6 11							91.0 19.1 8		
WEEK 2			122.4 29.8 22	108.0 28.0 18	119.8 27.1 20							110.3 27.9 16		
WEEK 3			148.1 23.3 23	128.3 ^a 29.2 20	146.8 21.8 20							125.7 ^a 31.4 18		
WEEK 4			174.2 29.4 25	161.3 22.4 21	162.9 31.8 22							152.6 ^a 30.7 19		
WEEK 5			189.3 30.4 26	182.8 19.4 21	184.5 28.3 23							176.1 25.7 19		
WEEK 6			205.4 17.7 26	202.7 19.0 21	198.0 33.7 23							192.9 19.2 19		
WEEK 7			213.8 15.9 26	206.2 22.8 21	208.7 19.5 23							200.3 15.9 19		
WEEK 8			215.7 16.5 26	211.0 22.4 21	209.6 16.2 23							203.0 13.4 19		
WEEK 9			221.6 14.6 26	209.9 39.9 21	218.0 16.7 22							206.4 14.1 19		
WEEK 10			213.2 15.7 26	207.7 21.1 21	204.4 17.5 23							199.6 ^a 15.4 19		

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

TABLE 2f cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION

87012F1

MALES	MEAN FOOD CONSUMPTION -- GRAMS		LOW DOSE		MID DOSE		HIGH DOSE	
	GROUP NAME	GROUP NUMBER	CONTROL	GRP 1	GRP 2	GRP 3	GRP 4	
	DOSE LEVEL		0 PPT	1.3 PPT	4 PPT	12.7 PPT		
WEEK 11	MEAN	216.1	212.2	205.2	207.4			
	S.D.	19.5	23.0	18.4	16.4			
	N	25	21	23	19			
WEEK 12	MEAN	205.0	205.0	207.0	199.6			
	S.D.	16.7	19.1	43.9	16.1			
	N	26	21	23	19			
WEEK 13	MEAN	205.6	202.5	202.3	200.9			
	S.D.	13.3	17.6	15.4	16.7			
	N	26	21	23	19			
WEEK 14	MEAN	203.5	200.7	196.1	195.5			
	S.D.	14.0	21.8	17.4	16.0			
	N	26	21	23	19			
WEEK 15	MEAN	193.0	190.9	182.9	183.1			
	S.D.	14.7	20.9	18.0	13.0			
	N	26	21	23	19			

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

87012f1

TABLE 29
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

FEMALES	WEEK	GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN FOOD CONSUMPTION -- GRAMS		LOW DOSE		MID DOSE		HIGH DOSE	
			CONTROL GRP 1 0 PPT		GRP 2 1.3 PPT		GRP 3 4 PPT		GRP 4 12.7 PPT	
	0	MEAN S.D. N	77.7 7.3 6		71.5 7.8 2		78.3 10.5 6		71.0 12.0 4	
	1	MEAN S.D. N	84.3 27.9 15		71.2 29.3 6		90.4 19.7 12		80.9 19.6 9	
	2	MEAN S.D. N	104.9 22.3 22		92.5 18.0 17		100.3 19.9 20		91.4 17.6 17	
	3	MEAN S.D. N	119.5 13.0 23		105.0b 17.2 22		118.4 13.7 20		106.3a 12.6 18	
	4	MEAN S.D. N	129.3 21.8 26		126.1 14.0 20		125.2 19.7 23		120.7 15.4 19	
	5	MEAN S.D. N	134.6 14.3 26		129.8 13.7 20		130.6 13.3 23		128.5 13.0 19	
	6	MEAN S.D. N	141.6 12.7 26		139.1 15.6 20		137.7 11.7 23		133.0 22.1 18	
	7	MEAN S.D. N	147.8 12.4 26		142.4 20.6 20		143.7 10.2 23		144.9 16.1 19	
	8	MEAN S.D. N	149.4 9.9 26		145.0 14.3 20		144.3 18.7 23		142.2 15.2 19	
	9	MEAN S.D. N	151.0 12.4 26		143.4 16.5 20		149.0 12.7 23		143.6 15.6 19	
	10	MEAN S.D. N	143.0 11.5 26		144.0 13.5 19		142.3 15.0 23		138.5 15.7 19	

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

87012F1
 TABLE 29 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION

FEMALES	GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN FOOD CONSUMPTION -- GRAMS			HIGH DOSE		
		CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT	MID DOSE GRP 3 4 PPT	GRP 4 12.7 PPT		
WEEK 11	MEAN S.D. N	145.6 10.7 26	143.6 16.3 20	141.9 18.6 23	140.9 15.3 18		
WEEK 12	MEAN S.D. N	135.0 10.5 26	137.7 13.0 20	138.0 18.0 23	139.5 14.4 19		
WEEK 13	MEAN S.D. N	137.0 11.9 26	139.1 12.8 20	133.6 12.2 23	133.4 12.2 19		
WEEK 14	MEAN S.D. N	133.8 13.0 26	135.3 13.1 20	131.6 14.8 23	133.2 12.4 18		
WEEK 15	MEAN S.D. N	123.2 12.5 26	120.8 13.1 20	124.1 11.0 23	124.4 10.1 19		

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $p < 0.05$; b = $p < 0.01$.

87012F1

TABLE 2h
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

		MEAN MATERNAL GESTATION FOOD CONSUMPTION							
GROUP NAME GROUP NUMBER DOSE LEVEL		CONTROL		LOW DOSE		MID DOSE		HIGH DOSE	
		GRP 1 0 PPT		GRP 2 1.3 PPT		GRP 3 4 PPT		GRP 4 12.7 PPT	
MATERNAL FOOD CONSUMPTION -- GRAMS									
DAYS 0 TO 7	MEAN	149.0		149.0		157.5		144.0	
	S.D. N	11.3 2		9.5 3		14.8 2		14.1 2	
DAYS 7 TO 14	MEAN	158.9		153.3		163.7		156.1	
	S.D. N	19.8 17		15.3 19		19.3 15		15.4 17	
DAYS 14 TO 21	MEAN	169.5		155.1		168.8		155.6	
	S.D. N	35.1 17		17.3 19		13.9 15		14.4 16	
DAYS 21 TO 28	MEAN	183.0							
	S.D. N	0.0 1							

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

87012F1A

TABLE 21
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION; BRED, DID NOT DELIVER
MEAN MATERNAL GESTATION FOOD CONSUMPTION

MATERNAL FOOD CONSUMPTION -- GRAMS				
DAYS	0 TO 7	GROUP		
		GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT
DAYS	7 TO 14	MEAN S.D. N	MID DOSE GRP 3 4 PPT	HIGH DOSE GRP 4 12.7 PPT
DAYS	14 TO 21	MEAN S.D. N	171.0 0.0 1	160.5 4.9 2
DAYS	21 TO 28	MEAN S.D. N	160.3 19.5 4	149.0 7.1 2

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

TABLE 3a

Clinical Signs - Parental Generation Males

	Nitroguanidine (ppt)			
	0	1.3	4.0	12.7
Number of animals observed	25	25	25	24
Number with signs	25	25	25	24
Red-stained nose	25	25	25	24
Red-stained eye	1	6	5	6
Red stain on/near ear	2	1	2	3
Red-stained head	1		2	
Red-stained limbs		2		
Red-stained jaw		1		
Blood on/around ear		1	2	2
Infection at eartag site	1			
Red crusty material on ear		1		
Scab on nose	1			
Hair loss from limbs	11	11	16	13
Orange material, perianal	2	3	2	2
Yellow material, perianal	3	4	5	
Diarrhea	2	1	1	
Soft stool		1	1	
Brown stain, perianal	1	1	1	
Brown-stained tail	1	1	2	
Brown-stained body			1	
Brown-stained limbs	1		3	
Brown material, haunches		1		
Brown material on tail		1		
Brown material, perianal		1		
Black material on tail	1			
Tip of tail missing		1		
Hyperactive	1	1		
Lethargic	1			
Increased startle reflex	2	2	1	2
Increased blinking reflex		1	1	
Irritable	3	4	2	1
Aggressive	1	4		2
Circling in cage			1	

TABLE 3b

Clinical Signs - Parental Generation Females

	Nitroguanidine (ppt)			
	0	1.3	4.0	12.7
Number of animals observed	34	35	34	34
Number with signs	34	35	34	34
Red-stained nose	34	35	34	34
Red-stained eye	8	15	12	7
Red stain on/near ear	4	4	1	5
Red-stained mouth/muzzle	1	1		
Red-stained head	1	3		
Red-stained neck	2	1	1	
Red-stained limbs		1		2
Brown-stained limbs				1
Brown-stained tail	1			1
Red-stained tail	18	19	16	13
Red stain, perianal	1			
Brown stain on body	2	1		3
Infection at eartag site	2	2	1	1
Crusty material, eartag	1	1	1	1
Bloody ear			1	
Hair loss from limbs	10	14	8	19
Hair loss from body	1		1	1
Rough coat	1			
Yellow material, perianal	1			
Brown material, perianal		1		
Brown material on foot				1
Dehydrated	3	1	3	2
Diarrhea	1			
Soft stool		1	1	
Red vaginal discharge		2		
Blood on vaginal swab	1			
Hyperactive	2	1	1	
Jumping in cage	1			1
Increased startle reflex	2	2	2	3
Irritable		1		1
Aggressive		2	1	1

TABLE 3b (Cont.)

Clinical Signs - Parental Generation Females

	Nitroguanidine (ppt)			
	0	1.3	4.0	12.7
Squinting eye		1		1
Clear material on eye	2			
Red material on eye		1		
Swelling around eye/eyelid		2		1
Debris in eye		1		
Increased blinking reflex		1		
Increased tearing of eye	1			
Bitten during cohabitation	1	1	1	
Listing, shoulder swollen	1			
Not bearing weight on leg	1	1		
Shaking head		1		
Head injured in feeder		1		
Prolonged labor		1		

TABLE 3c

Clinical Signs - F1 Generation Males

	Nitroguanidine (ppt)			
	0	1.3	4.0	12.7
Number of animals observed	26	21	23	19
Number with signs	26	21	23	19
Red-stained nose	26	21	23	19
Red-stained eye	6	2	5	5
Red stain on/near ear		1	1	
Red-stained head	2	4	2	4
Red-stained limbs				1
Red-stained mouth	3			
Dark material on ear				1
Infection at eartag site		1		1
Rough hair coat				1
Scab on foot			1	
Hair loss from limbs	14	10	11	9
Swollen mouth			1	
Swollen paw digits		1		
Dehydrated		1	1	1
Red urine	1			
Red-stained bedding	4	2		
Diarrhea	1	1		
Soft stool	2			
Brown stain, perianal	1	1		
Brown-stained tail	5	3	2	
Brown-stained body		1	2	
Brown material on body			1	
Brown material on tail		1		
Brown material, perianal	1			
Hyperactive	1			1
Increased startle reflex	1	2		3
Squinting eye	1		1	
Irritable	21	19	16	14
Aggressive	1	6	4	5
Head injured in feeder			1	
Death		1		

TABLE 3d

Clinical Signs - F₁ Generation Females

	Nitroguanidine (ppt)			
	0	1.3	4.0	12.7
Number of animals observed	26	20	23	19
Number with signs	26	20	23	19
Red-stained nose	26	19	23	19
Red-stained eye	15	8	10	4
Red stain on/near ear	1	1	1	
Red-stained head	13	5	13	7
Red-stained limbs		1	1	
Infection at eartag site	1	1		
Red material on ear			1	
Scab on foot			1	1
Hair loss from limbs	5	6	9	12
Swollen lower lip		1		
Swollen paw digits		1		
Dehydrated		1		1
Red-stained bedding		1		
Diarrhea		1		
Yellow material, perianal	1		1	1
Brown-stained tail		1	1	
Red-stained tail	3	1	1	1
Brown-stained body	1			2
Hyperactive	1		1	1
Increased startle reflex	2			2
Squinting eye	1			
Debris in eye		2		1
Irritable	19	15	15	11
Aggressive	3	4	2	2
Head injured in feeder			1	
Axillary mass			1	
Nipples not prominent after giving birth	3	4	2	3
Red material, vaginal area		1		
Blood on vaginal swab			1	

TABLE 4a

Effect of Nitroguanidine on Male Reproduction
Parental Generation

		Nitroguanidine (ppt)			
		0	1.3	4.0	12.7
Males paired	N	25	25	25	24
Bred female(s)	N	21	23	24	22
	%	84	92	96	92
Bred female(s) pregnant	N	19	22	19	15
	%	76	88	76	63
Sired litter(s)	N	19	22	19	14
	%	76	88	76	58
Average days to mate	Mean	2.3	2.3	2.3	2.0
	S.D.	1.5	1.6	1.6	1.3
	N	32	33	33	33

TABLE 4b
 Effect of Nitroguanidine on Male Reproduction
 F₁ Generation

		Nitroguanidine (ppt)			
		0	1.3	4.0	12.7
Males paired	N	26	20	23	19
Bred female(s)	N	19	17	15	15
	%	73	85	65	79
Bred female(s) pregnant	N	15	16	14	14
	%	58	80	61	74
Sired litter(s)	N	15	16	14	13
	%	58	80	61	68
Average days to mate	Mean	2.7	3.2	3.2	2.6
	S.D.	1.5	1.7	1.6	1.6
	N	24	20	19	19

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TABLE 5a
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
NATURAL DELIVERY DATA AND LITTER DATA -- SUMMARY

GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT	MID DOSE GRP 3 4 PPT	HIGH DOSE GRP 4 12.7 PPT
Females on Study	N 34	35	34	34
Females Mated	N 32	33	34	33
Mating Index	% 94	94	100	97
Females Pregnant	N 26	27	25	21
Female Fertility Index	% 81	82	74	64
Females with Liveborn	N 26	25	25	19
Gestation Index	% 100	93	100	90
Females Surviving Delivery	N 26	27	25	19
	% 76	77	74	56
Duration of Gestation	MEAN 22.12	22.26	22.00	21.95
	S.D. 0.43	0.76	0.29	0.40
with Stillborn Pups	N 7	5	4	5
	% 27	19	16	26
with all Stillborn	N 0	0	0	0
	% 0.0	0.0	0.0	0.0
With Entire Liveborn Litter Dying and/or Missing, Cannibalized, Culled				
days 0-4	N 0	3	2	0
	% 0.0	12	8.0	0.0
days 5-21	N 0	0	0	0
	% 0.0	0.0	0.0	0.0
days 0-21	N 0	4	2	0
	% 0.0	16	8.0	0.0

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

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TABLE 5a cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION

NATURAL DELIVERY DATA AND LITTER DATA -- SUMMARY

	GROUP NAME	GROUP NUMBER	DOSE LEVEL	CONTROL			LOW DOSE			MID DOSE			HIGH DOSE		
				GRP 1	GRP 2	GRP 3	GRP 1	GRP 2	GRP 3	GRP 1	GRP 2	GRP 3	GRP 1	GRP 2	GRP 3
				0 PPT	1.3 PPT	4 PPT	0 PPT	1.3 PPT	4 PPT	0 PPT	1.3 PPT	4 PPT	0 PPT	1.3 PPT	4 PPT
Litters with Liveborn Pups	N			26			25			25			19		
Pups Delivered (total)	N			290			265			289			217		
	MEAN			11.15			10.60			11.56			11.42		
	S.D.			3.73			4.02			3.71			3.02		
Liveborn	N			279			255			285			209		
Live Birth Index	%			96			96			99			96		
Stillborn	N			11			8			4			7		
	%			3.8			3.0			1.4			3.2		
Uncertain	N			0			2			0			1		
Culled day 4				79			75			87			63		
Culled (total)	N			79			75			87			63		
Cannibalized	N			2			3			2			0		
Missing	N			5			15			3			2		
Died	N			11			16			30			11		
Liveborn, not culled prior to day 21	N			200			180			198			146		
Pups Dying, Missing, and/or Cannibalized day 0	N			0			0			0			0		
	%			0.0			0.0			0.0			0.0		
days 1-4	N			11			25b			23			3		
	%			3.9			9.8			8.1			1.4		
days 5-7	N			1			0			0			1		
	%			0.4			0.0			0.0			0.5		
days 8-14	N			3			7			10			9a		
	%			1.1			2.7			3.5			4.3		
days 15-21	N			3			2			2			0		
	%			1.1			0.8			0.7			0.0		
Pups Surviving 4 days Viability Index	N			268			230b			262			206		
	%			96			90			92			99		
Pups Surviving 21 days Lactation Index	N			182			146b			162b			133		
	%			91			81			82			91		

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TABLE 5a cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE

PARENTAL GENERATION

NATURAL DELIVERY DATA AND LITTER DATA -- SUMMARY

GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT		MID DOSE GRP 3 4 PPT		HIGH DOSE GRP 4 12.7 PPT	
Live Pups/Litter							
day 0	MEAN S.D.	10.73 3.60	10.20 4.55	11.40 3.67	11.00 2.79		
day 4 precullling	MEAN S.D.	10.31 3.50	9.20 5.42	10.48 4.43	10.84 3.00		
day 4 postculling	MEAN S.D.	7.27 1.56	6.20 3.07	7.00 2.35	7.53 1.26		
day 7	MEAN S.D.	7.23 1.56	6.20 3.07	7.00 2.35	7.47 1.26		
day 14	MEAN S.D.	7.12 1.53	5.92 3.01	6.60 2.43	7.00 1.80		
day 21	MEAN S.D.	7.00 1.52	5.84 3.12	6.48 2.40	7.00 1.80		
Pup Weight/Litter (grams)							
day 0	MEAN S.D.	7.06 0.59	6.76 0.57	6.74 0.64	6.66 0.53		
day 4 precullling	MEAN S.D.	10.71 1.74	9.94 1.66	10.23 1.65	9.87 1.53		
day 4 postculling	MEAN S.D.	10.69 1.74	9.99 1.62	10.26 1.64	9.86 1.52		
day 7	MEAN S.D.	16.83 2.53	15.71 2.51	16.38 2.33	15.15 2.61		
day 14	MEAN S.D.	31.74 4.07	30.40 5.60	32.09 3.36	30.96 3.19		
day 21	MEAN S.D.	50.08 6.43	48.94 6.74	50.06 5.01	47.54 5.66		
Sex Ratio - Male Pups:Total Pups							
day 0	N %	127 46	124 49	122 43	104 50		
day 21	N %	86 47	77 53	76 47	65 49		

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

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TABLE 5b
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
NATURAL DELIVERY DATA AND LITTER DATA -- SUMMARY

GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT	MID DOSE GRP 3 4 PPT	HIGH DOSE GRP 4 12.7 PPT
Females on Study	N 26	20	23	19
Females Mated	N 24	20	20	19
Mating Index	% 92	100	87	100
Females Pregnant	N 17	19	16	18
Female Fertility Index	% 71	95	80	95
Females with Liveborn Gestation Index	N 17	18	16	16
	% 100	95	100	89
Females Surviving Delivery	N 17	19a	16	17
	% 65	95	70	89
Duration of Gestation	MEAN 22.47	22.16	22.25	22.53
	S.D. 0.62	0.50	0.45	0.62
with Stillborn Pups	N 3	9	2	4
	% 18	47	13	24
with all Stillborn	N 0	0	0	1
	% 0.0	0.0	0.0	5.9
with Entire Liveborn Litter Dying and/or Missing, Cannibalized, Culled				
days 0-4	N 1	1	0	2
	% 5.9	5.6	0.0	13
days 5-21	N 0	0	0	0
	% 0.0	0.0	0.0	0.0
days 0-21	N 2	1	0	3
	% 12	5.6	0.0	19

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

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TABLE 5b cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
NATURAL DELIVERY DATA AND LITTER DATA -- SUMMARY

GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT		MID DOSE GRP 3 4 PPT		HIGH DOSE GRP 4 12.7 PPT	
Litters with Liveborn Pups	N	17	18	16	16	16	16
Pups Delivered (total)	N MEAN S.D.	208 12.24 2.61	216 11.36 3.85	217 13.56 2.66	217 13.56 2.66	178 10.47 4.40	178 10.47 4.40
Liveborn Live Birth Index	N %	205 99	205 95	211 97	211 97	174 98	174 98
Stillborn	N %	3 1.4	9 4.2	6 2.8	6 2.8	4 2.2	4 2.2
Uncertain	N	0	2	0	0	0	0
Culled day 4		46	45	73	73	38	38
Culled (total)	N	46	45	73	73	38	38
Cannibalized	N	1	2	2	2	0	0
Missing	N	16	15	12	12	11	11
Died	N	43	38	34	34	45	45
Liveborn, not culled prior to day 21	N	159	160	138	138	136	136
Pups Dying, Missing, and/or Cannibalized day 0	N %	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0
days 1-4	N %	38 19	34 17	16b 7.6	16b 7.6	36 21	36 21
days 5-7	N %	5 2.4	6 2.9	3 1.4	3 1.4	11 6.3	11 6.3
days 8-14	N %	14 6.8	12 5.9	28a 13	28a 13	7 4.0	7 4.0
days 15-21	N %	3 1.5	3 1.5	1 0.5	1 0.5	2 1.1	2 1.1
Pups Surviving 4 days Viability Index	N %	167 81	171 83	195b 92	195b 92	138 79	138 79
Pups Surviving 21 days Lactation Index	N %	99 62	105 66	90 65	90 65	80 59	80 59

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TABLE 5b cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

NATURAL DELIVERY DATA AND LITTER DATA -- SUMMARY

GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE		MID DOSE		HIGH DOSE	
		GRP 2 1.3 PPT	1.3 PPT	GRP 3 4 PPT	4 PPT	GRP 4 12.7 PPT	12.7 PPT
Live Pups/Litter							
day 0	MEAN S.D.	12.06 2.54	11.39 2.87	13.19 2.76		10.88 3.65	
day 4 preculling	MEAN S.D.	9.82 4.20	9.50 3.93	12.19 3.51		8.63 4.84	
day 4 postculling	MEAN S.D.	7.12 2.20	7.00 2.06	7.63 1.26		6.25 3.07	
day 7	MEAN S.D.	6.82 2.46	6.67 2.14	7.44 1.26		5.56 3.31	
day 14	MEAN S.D.	6.00 2.85	6.00 2.28	5.69 2.47		5.13 3.22	
day 21	MEAN S.D.	5.82 3.00	5.83 2.26	5.63 2.58		5.00 3.18	
Pup Weight/Litter (grams)							
day 0	MEAN S.D.	6.56 0.32	6.44 0.63	6.42 0.60		6.30 0.58	
day 4 preculling	MEAN S.D.	9.54 2.04	8.89 1.96	9.31 1.79		9.85 2.61	
day 4 postculling	MEAN S.D.	9.56 2.06	8.97 1.98	9.44 1.78		9.82 2.58	
day 7	MEAN S.D.	14.99 3.51	14.55 3.53	14.45 3.49		15.99 3.33	
day 14	MEAN S.D.	32.42 3.37	31.82 4.73	32.40 6.12		33.29 5.32	
day 21	MEAN S.D.	50.91 6.07	49.08 6.18	50.87 8.95		52.67 9.27	
Sex Ratio - Male Pups:Total Pups							
day 0	N %	90 44	108 53	100 47		90 52	
day 21	N %	48 48	57 54	46 51		39 49	

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

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TABLE 6a
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP WEIGHT SUMMARY

GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN S.D. N	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT	MID DOSE GRP 3 4 PPT	HIGH DOSE GRP 4 12.7 PPT
day 0 males	7.28 0.60 26	7.09 0.57 23	6.91 0.71 25	6.85 0.53 19	
0 females	6.87 0.61 26	6.51 0.59 25	6.62 0.64 25	6.46 0.58 19	
0 males+females	7.06 0.59 26	6.76 0.57 25	6.74 0.64 25	6.66 0.53 19	
day 4 males precullying	10.94 1.79 26	10.20 1.78 22	10.42 1.63 23	10.07 1.57 19	
4 females precullying	10.48 1.71 26	9.82 1.44 20	10.14 1.73 23	9.67 1.51 19	
4 males+females precullying	10.71 1.74 26	9.94 1.66 22	10.23 1.65 23	9.87 1.53 19	
day 4 males postcullying	10.96 1.77 26	10.27 1.76 22	10.40 1.61 23	10.10 1.59 19	
4 females postcullying	10.44 1.73 26	9.85 1.35 20	10.16 1.74 23	9.62 1.50 19	
4 males+females postcullying	10.69 1.74 26	9.99 1.62 22	10.26 1.64 23	9.86 1.52 19	

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $p < 0.05$; b = $p < 0.01$.

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TABLE 6a cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP WEIGHT SUMMARY

	GROUP NAME GROUP NUMBER DOSE LEVEL	MEAN S.D. N	CONTROL GRP 1 0 PPT	LOW DOSE		MID DOSE		HIGH DOSE	
				GRP 2 1.3 PPT		GRP 3 4 PPT		GRP 4 12.7 PPT	
day 7 males			17.33 2.56 26	16.07 2.64 22		16.65 2.36 23		15.40a 2.72 19	
7 females			16.43 2.54 26	15.69 2.18 20		16.15 2.45 23		14.91 2.61 19	
7 males+females			16.83 2.53 26	15.71 2.51 22		16.38 2.33 23		15.15 2.61 19	
day 14 males			32.30 4.35 25	31.10 5.79 21		32.60 4.04 23		31.46 3.24 18	
14 females			31.41 4.08 25	30.91 3.81 19		31.56 2.84 23		30.42 3.41 18	
14 males+females			31.74 4.07 25	30.40 5.60 21		32.09 3.36 23		30.96 3.19 18	
day 21 males			50.85 6.89 26	49.70 6.98 21		51.16 5.68 23		48.56 5.77 19	
21 females			49.60 6.46 26	48.50 6.35 20		48.92 4.18 23		46.46 5.95 19	
21 males+females			50.08 6.43 26	48.94 6.74 21		50.06 5.01 23		47.54 5.66 19	

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = $P < 0.05$; b = $P < 0.01$.

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TABLE 6b

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE

F1 GENERATION

PUP WEIGHT SUMMARY

GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT		MID DOSE GRP 3 4 PPT		HIGH DOSE GRP 4 12.7 PPT	
		MEAN	S.D.	N	MEAN	S.D.	N
day 0 males	6.75	6.67	0.68	17	6.63	0.64	15
0 females	6.40	6.21	0.58	17	6.23	0.60	16
0 males+females	6.56	6.44	0.63	17	6.42	0.60	16
day 4 males precullling	9.69	9.22	1.95	16	9.45	1.79	16
4 females precullling	9.39	8.61	1.89	16	9.20	1.89	16
4 males+females precullling	9.54	8.89	1.96	16	9.31	1.79	16
day 4 males postcullling	9.75	9.34	1.98	16	9.69	1.73	16
4 females postcullling	9.38	8.68	1.93	16	9.22	1.90	16
4 males+females postcullling	9.56	8.97	1.98	16	9.44	1.78	16

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SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

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TABLE 6b cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP WEIGHT SUMMARY

	GROUP NAME GROUP NUMBER DOSE LEVEL	CONTROL GRP 1 0 PPT	LOW DOSE GRP 2 1.3 PPT		MID DOSE GRP 3 4 PPT		HIGH DOSE GRP 4 12.7 PPT	
			MEAN S.D. N	MEAN S.D. N	MEAN S.D. N	MEAN S.D. N	MEAN S.D. N	MEAN S.D. N
day 7	males	15.26 3.71 16	15.02 3.67 17	14.92 3.41 16	15.31 2.38 12			
7	females	15.35 2.74 15	14.20 3.42 17	14.01 3.75 16	15.81 3.55 13			
7	males+females	14.99 3.51 16	14.55 3.53 17	14.45 3.49 16	15.99 3.33 13			
day 14	males	32.40 5.61 14	32.41 4.90 17	33.02 6.46 16	31.50 3.19 12			
14	females	32.60 2.71 15	31.48 5.08 17	33.65 3.37 14	33.68 5.62 12			
14	males+females	32.42 3.37 15	31.82 4.73 17	32.40 6.12 16	33.29 5.32 13			
day 21	males	51.84 6.74 13	49.75 6.70 17	52.02 9.67 16	51.64 7.67 12			
21	females	49.98 6.04 15	48.40 5.95 17	52.24 5.46 14	50.95 8.45 12			
21	males+females	50.91 6.07 15	49.08 6.18 17	50.87 8.95 16	52.67 9.27 13			

SIGNIFICANTLY DIFFERENT FROM CONTROL: a = P<0.05; b = P<0.01.

TABLE 7a

Effect of Nitroguanidine on
Examination Findings of Pups at Delivery
F₁ Generation

	Nitroguanidine (ppt)			
	0	1.3	4.0	12.7
Litters examined	26	25	25	19
Litters with signs	3	4	8	2
Pups examined	270	263	279	215
Pups with signs	4	5	10	2
Right hind talipes equinovarus	1			
Head, discolored/purple areas	1		2	
Red crusty material on eyelid		1		
Leg swollen	1			
Leg discolored/purple	1			1
Foot swollen			2	
Foot discolored/purple		2	3	
Tip of tail dark red/purple	1		1	
Body blue			1	1
Discolored eye			1	
Swollen eye			1	
Cool	1			
Inactive	1		1	
Fluid under skin			1	
Dehydrated		1		
Abdomen bloated		1		
Umbilical cord wrapped around pup	1		2	

TABLE 7b

Effect of Nitroguanidine on
Examination of Pups at Delivery Findings
F₂ Generation

	Nitroguanidine (ppt)			
	0	1.3	4.0	12.7
Litters examined	17	18	16	17
Litters with signs	5	4	2	4
Pups examined	208	212	215	178
Pups with signs	5	4	2	4
Head, discolored/purple areas	1	1	1	1
Jaw short	1			
Muzzle narrow/pointed	1			1
Foot swollen	1			
Foot discolored/purple	2	1		
Tail kinked			1	
Body blue	1			
Skin loose	1			
Clotted blood at umbilicus				1
Abdomen bloated	1			
Head large				1
Head flattened				1
Body small		2		

TABLE 8a

Effect of Nitroguanidine on Visceral Examination Findings
of Culled and Dead PupsF₁ Generation

	Nitroguanidine (ppt)			
	0	1.3	4.0	12.7
Pups/litters examined	98/22	98/22	118/22	79/17
Pups/litters with findings	19/7	21/9	24/10	16/8
Brain ventricles dilated		1/1		
Jaw short and blunt				1/1
Lung surface pitted	3/2	2/2	1/1	
Left atria positioned ventral				1/1
Spleen large			1/1	
Spleen small			2/2	
Renal pelvis dilated				
slight	9/5	7/6	13/8	6/6
moderate	7/5	9/4	6/3	6/3
marked	1/1	1/1	1/1	1/1
Kidneys surface pitted		1/1		
Kidney underdeveloped		1/1		
Ureter dilated		1/1		
Oviduct(s) not straight	1/1		1/1	2/2
Ovary ectopic	1/1			

TABLE 8b

Effect of Nitroguanidine on Visceral Examination Findings
of Culled and Dead PupsF₂ Generation

	Nitroguanidine (ppt)			
	0	1.3	4.0	12.7
Pups/litters examined	91/16	91/17	110/15	87/15
Pups/litters with findings	19/7	27/9	34/9	30/8
Brain ventricles dilated	2/2		5/5	2/2
Anopthalmia		1/1		
Jaw short and blunt		1/1		
Open spaces in olfactory bulbs	1/1			
Lung surface pitted			1/1	
Lung surface smooth	1/1	1/1	1/1	
Cavity in lung				1/1
Bronchioles dilated, reducing lung area			1/1	
Heart septum absent		1/1		
Atria small	2/1	1/1		
Small intestine adhered to abdominal wall	1/1			
Spleen small				2/1
Renal pelvis dilated				
slight	6/2	8/6	16/6	4/3
moderate	4/3	8/6	4/3	6/3
marked	3/2	5/3	2/2	10/3
Kidney underdeveloped	3/3	5/4	1/1	2/2
Ureter dilated	5/3	2/1	9/5	3/3
Oviduct(s) not straight		1/1	2/2	3/2
Ovary ectopic		1/1	1/1	
Tissue adema		1/1		2/2

DISCUSSION

The health effects of nitroguanidine are being determined because of the Army's decision to incorporate nitroguanidine in its triple-base propellants. Previously, this laboratory showed that nitroguanidine was slightly toxic in rats and mice following acute oral administration, was nonirritating to the skin and eyes of rabbits, and was nonreactive in a dermal sensitization study in guinea pigs (9). A 90-day subchronic toxicity study in rats and mice with doses as high as a "limit dose" of 1000 mg/kg/day mixed in the diet indicate that the only toxicity observed following nitroguanidine intake was an increased water consumption (10). This lack of toxicity was supported by metabolic fate studies that indicated that nitroguanidine was absorbed 100% following oral administration and was excreted unchanged in the urine, 60-80% within the first 8 hours (11).

In a developmental toxicity study in rats, nitroguanidine given by oral gavage on gestational days 6 through 15 at 1000 mg/kg/day produced decreased food consumption, maternal weight loss, and smaller fetuses with an increased incidence of retarded ossification of the sternbrae, caudal vertebrae, and pubis. The developmental toxicity no-observed-effect level for nitroguanidine in rats was 316 mg/kg/day (12). In a developmental toxicity study in NZW rabbits, nitroguanidine given by oral gavage on gestation days 6 through 18 at 1000 mg/kg/day caused death or termination in a moribund condition in 10 of 22 animals. The animals at this dose level exhibited weight loss and decreased food consumption. Fetuses from these dams were lighter in weight and had an increased incidence of retarded ossification of the sternbrae, olecranon, patellae, and phalanges. An increased incidence of resorptions occurred in all dose groups (100, 316, and 1000 mg/kg/day) versus the control group. However, the control group in this study had a lower resorption rate than published reports for NZW rabbits and the resorption rate found in the nitroguanidine dosed animals was within these published control values. We concluded that nitroguanidine did not have teratogenic potential, but had equivocal evidence of developmental toxicity in rabbits (13).

Dose levels of 1.3, 4.0, and 12.7 parts per thousand in the diet were selected for the fertility and reproductive study because they approximated the 100, 316, and 1000 mg/kg/day nitroguanidine dose levels in the developmental toxicity studies in rats and rabbits. When the young adults were 10 or 11 weeks old, males 300 to 400 g and females 200 to 250 g, the 12.7 ppt dose group animals consumed approximately 1000 mg of nitroguanidine per kg of body weight per day. Since the ratio of food consumption per body weight decreases as the animal grows, when the animals were younger

they received more nitroguanidine per kg body weight and less when they were older.

In this fertility and reproductive toxicity study, nitroguanidine was well tolerated at all dose levels. One adult animal, an F₁ male, died during the study. The cause of death could not be determined by necropsy. However, one death in a low dose animal does not fit a dose-response pattern. Nitroguanidine had a slight effect on adult body weight. Some of the weekly body weights of high dose group animals were significantly lower than those of the controls, but the high dose group animal weights were not consistently lower throughout any of the study periods. Terminal body weights at necropsy were significantly lower than the controls for the F₁ high dose males and low and high dose F₁ females. Nitroguanidine also had a slight effect on food consumption. Reduced food consumption occurred in the high dose group for a few sporadic weeks during the study. Nitroguanidine did not affect clinical signs. All of the F₁ generation dose groups, including the controls, had a higher incidence of irritability than the parental animals. Nitroguanidine did not affect the reproductive or live pup indices. The parental generation litters had lower viability and lactation indices in the low dose group and the mid dose group had a lower lactation index than the controls. Because there were no differences in these indices for the high dose group in either generation, the decreased survival does not appear to be dose-related. Nitroguanidine did not affect the pup weights, litter weights, initial examination findings, or visceral examination findings on culled or dead pups. Histopathological examination of the reproductive organs of the adult animals in the control and high dose groups and gross examination of weanlings showed no lesions attributable to nitroguanidine in any of the generations.

CONCLUSION

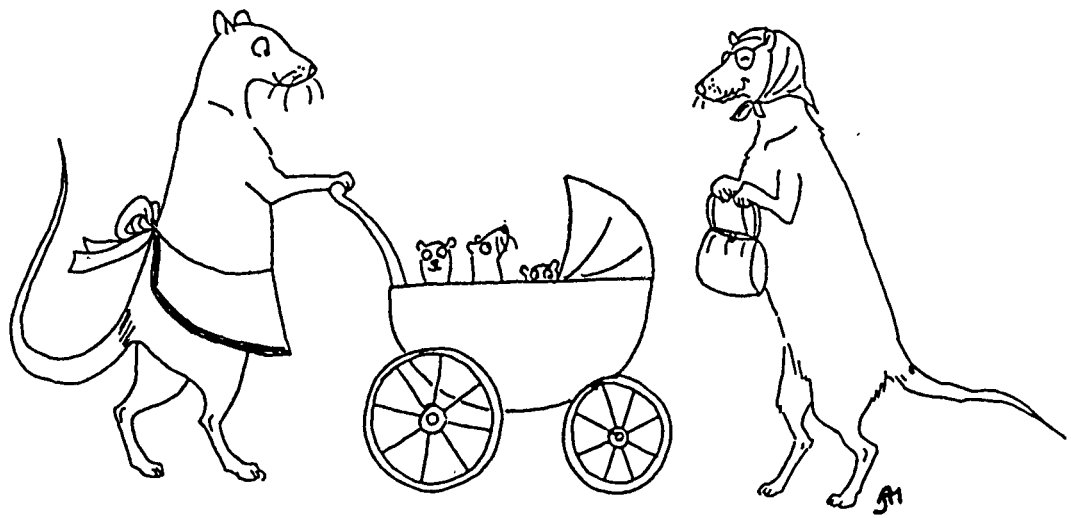
Nitroguanidine, at dose levels from 1.3 to 12.7 parts per thousand in the diet fed continuously to parental male and female Sprague-Dawley rats starting at 56 to 58 days of age through to the weaning of the F₂ generation, did not cause reproductive or fertility toxicologic effects under the conditions of this study. In young adult rats these dose levels approximated the 100, 316, and 1000 mg/kg/day nitroguanidine dose levels tested in developmental toxicity studies in rats and rabbits.

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Appendix A: CHEMICAL DATA

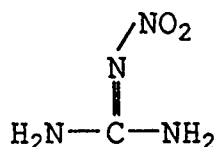
Chemical name: Nitroguanidine (NGu)

Other listed names: Guanidine, Nitro; alpha-Nitroguanidine; beta-Nitroguanidine

Chemical Abstracts Service Registry No.: 556-88-7

LAIR Code: TP036B
TP036C

Structural formula:



Molecular formula: $\text{CH}_4\text{N}_4\text{O}_2$

Molecular weight: 104.1

Physical state: White Powder

Melting point: 232° C*

Source: Hercules Aerospace Division
Sunflower Ammunition Plant
Desoto, Kansas

Lot No.: SOW85F011-028 (TP036B)

Analytical data/purity:

The major peaks in the infrared spectrum of the compound were observed at 3450, 3396, 3342, 3278, 3201, 1666, 1634, 1525, 1404, 1314, 1151, 1045, 782 cm^{-1} . The spectrum was identical to the Sadtler standard spectrum for nitroguanidine.[†] HPLC analysis showed only one peak (retention time, 4.8 min).[§] The conditions employed were as follows: column, Brownlee RP-18 (4.6 x 250 mm); solvent, 10% methanol/90% water; flow rate, 0.7 ml/min; column temperature, 50°C; wavelength monitored, 265 nm.

Appendix A (Cont.): CHEMICAL DATA

Lot No.: SOW87L019-064 (TP036C)

Analytical data/purity:

The major peaks in the infrared spectrum of the compound were observed at 3450, 3397, 3342, 3201, 1664, 1631, 1519, 1412, 1279, 1152, 1043, 782 cm^{-1} . The spectrum was identical to the Sadtler standard spectrum for nitroguanidine.[†] HPLC analysis showed only one peak (retention time, 3.9 min).[‡] The conditions employed were as follows: column, Brownlee RP-18 (4.6 x 250 mm); solvent, 10% methanol/90% water; flow rate, 0.7 ml/min; wavelength monitored, 265 nm.

*Fedoroff BT, Sheffield OE. Encyclopedia of explosives. Vol V. Dover, New Jersey: Picatinny Arsenal, 1975:G154.

†Wheeler, CR. Nitrocellulose-Nitroguanidine Projects. Laboratory Notebook #85-12-022, pp. 58-59. Letterman Army Institute of Research, Presidio of San Francisco, CA.

‡Sadtler Research Laboratory, Inc. Sadtler standard spectra. Philadelphia: The Sadtler Research Laboratory, Inc. 1962:Infra-red spectrogram #21421.

\$Wheeler CR. Nitrocellulose-Nitroguanidine Projects. Laboratory Notebook #85-12-022, pp. 33-35. Letterman Army Institute of Research, Presidio of San Francisco, CA.

@Wheeler, CR. Nitrocellulose-Nitroguanidine Projects. Laboratory Notebook #85-12-022, p 66. Letterman Army Institute of Research, Presidio of San Francisco, CA.

#Wheeler CR. Nitrocellulose-Nitroguanidine Projects. Laboratory Notebook #85-12-022, p 65. Letterman Army Institute of Research, Presidio of San Francisco, CA.

Appendix A (cont.): CHEMICAL DATA

DESCRIPTION SHEET FOR EXPLOSIVES, CHEMICALS, ETC ORSAR-P-702-1091						RQR CONTROL 37430 EXEMPT-Para 7-2a AR 315-15		PAGE 10F 2				
TO: Commander US Army Armament Munitions and Chemical Command Attn: ORSMC-QAD Rock Island, ILL. 61299				FROM: Sunflower Army Ammunition Plant DeSoto, Kansas 66018		DATE June 26, 1985						
						MATERIAL Nitroguanidine						
MANUFACTURER Hercules Aerospace Company				CONTRACT NO. DAAA09-76-C-4016 CLIN 0316								
SECTION A - DESCRIPTION OF LOTS												
FROM NUMBER SOW85F011-028		THRU NUMBER --		TOTAL NO. LOTS 1		TOTAL NET AMOUNT ACCEPTED 10,950 pounds						
PLACE MANUFACTURED Sunflower Army Ammunition Plant				SPECIFICATION AND AMENDMENT/DRAWING NO. MIL-N-00494B dtd. 17 July 1984								
SECTION B - DESCRIPTION OF MATERIAL												
TEST REQUIREMENT--SHIFT AVERAGE												
				MAX →	--	0.30%	7.0	0.06%	0.25%	0.20%	0.20%	6.0
				MIN →	99.00%	--	4.5	--	--	--	--	3.4
LOT NO.	DATE	SHIFT	DRUMS	PURITY	ASH	pH	ACIDITY	TV	SUL-FATES	W.I.	FSSS	
SOW85F011-028	6-18-85	4-12	22-23	99.70	0.02	5.9	0.01	0.01	0.00	0.02	4.0	
-028			48-65									
-028			68									
-028	6-19-85	12-8	72	*	*	*	*	*	*	*	*	
-028			74-78									
-028			85-90									
-028			114-115									
-028			122-124									
-028			155-157									
-028			198-199									
-028	6-19-85	8-4	216-219	*	*	*	*	*	*	*	*	
-028			234-235									
-028			303-307									
-028			309-314									
-028			317-321									
-028	6-19-85	4-12	405	99.71	0.04	5.9	0.00	0.01	0.00	0.02	4.1	
-028	6-20-85	12-8	411-413	*	*	*	*	*	*	*	*	
REMARKS 1) Packaging: Level C - Fiber drums per specification DOT21C60. 2) Interfix number 011 identifies lots manufactured with Sunflower produced guanidine nitrate 3) The average bulk density for Lot SOW85F011-028 is 0.262 gm/cc as determined by Method 201.3 of MIL-STD-650.												
SECTION C - CERTIFICATION												
SAMPLING CONDUCTED BY Hercules Aerospace Company				THE ABOVE MATERIAL COMPLIES WITH ALL SPECIFICATION REQUIREMENTS AND IS CERTIFIED TRUE AND CORRECT								
TESTING CONDUCTED BY Hercules Aerospace Company				<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <i>A. H. English</i> DATE </div> <div> A. H. English, Quality Assurance Dept. SIGNATURE </div> </div>								
THE ABOVE DESCRIBED LOTS ARE HEREBY ACCEPTED												
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <i>28 June 1985</i> DATE </div> <div> Chief, QA Division TITLE </div> </div>				<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <i>Ray J. Sal...</i> SIGNATURE </div> <div> FOR THE COMMANDER </div> </div>								

Appendix A (cont.): CHEMICAL DATA

DESCRIPTION SHEET FOR EXPLOSIVES, CHEMICALS, ETC (AMSMC-P-702-109)						RQR CONTROL SYMBOL EXEMPT - PARA 5-2a (8) AR 335.15		PAGE 1 OF 1			
TO: Commander U.S. Army Ammunition, Munitions and Chemical Command ATTN: AMSMC-QAD Rock Island, IL 61299-6000				FROM: Sunflower Army Ammunition Plant DeSoto, KS 66018		DATE November 23, 1987					
MANUFACTURER Hercules Aerospace Company				CONTRACT NO. DAAA09-86-Z-0011							
SECTION A - DESCRIPTION OF LOTS											
FROM NUMBER SOW87L019-064		THRU NUMBER --		TOTAL NO. LOTS 1		TOTAL NET AMOUNT ACCEPTED 27,554 pounds					
PLACE MANUFACTURED Sunflower Army Ammunition Plant				SPECIFICATION AND AMENDMENT/DRAWING NO. MIL-H-00494B, with RPD NQ86-1, 31 JAN 86							
SECTION B - DESCRIPTION OF MATERIAL											
TEST REQUIREMENT											
		MAX →		--	0.30%	7.0	0.06%	0.25	0.20	0.20%	6.0%
		MIN →		99.99%	--	4.8	--	--	--	--	3.4
Lot No.	Date	Shift	Drums	Purity	Ash	pH	Acidity	T V	Sul - fates	W.I.	F888
SOW87L019-064	11-16-87	8-4	2-94	*	*	*	*	*	*	*	*
-064	11-17-87	8-4	95-218	99.66	0.01	5.4	0.01	0.04	0.01	0.03	4.2
-064	11-17-87	4-12	219-362	*	*	*	*	*	*	*	*
-064			363-474	*	*	*	*	*	*	*	*
-064	11-18-87	12-8	475-587	59.73	0.01	6.0	0.01	0.08	0.01	0.01	4.5
-064			588-600	*	*	*	*	*	*	*	*
TOTAL DRUMS			599								
Sampling and testing in accordance with MIL-STD-1235B.											
REMARKS 1) The average bulk density for the lot is 0.257 gm/cc as determined by Method 201.3 of MIL-STD-650.											
SECTION C - CERTIFICATION											
SAMPLING CONDUCTED BY Hercules Aerospace Company				THE ABOVE MATERIAL COMPLIES WITH ALL SPECIFICATION REQUIREMENTS AND IS CERTIFIED TRUE AND CORRECT.							
TESTING CONDUCTED BY Hercules Aerospace Company				11-24-87 <i>W. English</i> A. W. English, Quality Assurance Dept. DATE SIGNATURE							
THE ABOVE DESCRIBED LOTS ARE HEREBY ACCEPTED											
24 Nov 87 DATE				Chief, QA Division TITLE				R. J. C. <i>W. English</i> SIGNATURE			

Appendix B: ANIMAL DATA

Parental Generation

Species: *Rattus norvegicus*

Strain: Sprague-Dawley

Source: Bantin-Kingman
Fremont, California

Sex: Male and female

Date of Birth: Males - 26 May 87
Females - 25 May 87

Date of arrival at LAIR: 8 July 87

Age (days) at start of dosing: Males 56
Females 58

Weight (g) range at start of dosing: Males 217 - 272
Females 166 - 240

Number of animals: Males 101
Females 140

Condition of animals at start of study: Normal

Method of group assignment: Weight-biased stratified
randomization LAIR SOP OP-STX-78

Identification procedures: Ear tag LAIR SOP OP-ARG-1

Pretest conditioning: Quarantine/acclimation from 8 July 87 to
21 July 87 for males, and 22 July 87 for
females.

Justification: The rat is the preferred species for reproduction
and fertility effects testing.

Appendix C: Analysis of Feed Mixtures

INTRODUCTION

Feed mixtures containing nitroguanidine (NGu) were prepared for laboratory rodents. The target concentrations of NGu in the feed mixtures ranged from 1.27 to 15.0 mg NGu per gram of diet. Samples of the feed mixtures were analyzed by HPLC to determine the concentration and homogeneity of NGu in the mixtures. Methylnitroguanidine (MNGu) was used as an internal standard.

MATERIALS

Nitroguanidine (Lot Nos. SOW85F011-028 and SOW87L019-064) was obtained from the Sunflower Army Ammunition Plant, Desoto, Kansas. Methylnitroguanidine was synthesized following the method of McKay¹ using 1-methyl-3-nitro-1-nitrosoguanidine (MMNG, lot no. 8228CK) 97%, and methylamine (in water, lot no. 0719AL) 40% purchased from Aldrich Chemical Co. (St. Louis, MO). Certified Rodent Chow[®] #5002 (Lot Nos. MAR 06 871 O MEAL, May 20 871 O MEAL June 24 872 C MEAL, July 15 872 B MEAL, July 21 871 C MEAL, July 22 871 A MEAL, Sept 14 872 A MEAL, Sept 23 871 F MEAL, Oct 07 871 A MEAL, Dec 28 871 F MEAL, Jan 07 881 C MEAL, Jan 12 882 E MEAL, Jan 14 881 A MEAL) was ordered from Ralston Purina Co. (St. Louis, MO). HPLC grade methanol was obtained from J.T. Baker Co. (Phillipsburg, NJ). All water used in the assay was distilled and treated with UV light using an Organicpure[®] still (Sybron/Barnstead, Boston, MA).

METHODS

Initially, stock solutions of NGu (1 mg/ml) and MNGu (1 mg/ml) in water were prepared. Standard solutions for the calibration plot were then prepared as dilutions to 25 ml with water of the stock solutions (Table 1). These standards were analyzed at the beginning and end of each run.

Appendix C (Cont.): Analysis of Feed Mixtures

Table 1

Preparation of Standard Solutions

Tube #	Target Conc. of NGu mg/ml	Target Conc. of MNGu mg/ml	Mls of NGu	Mls of MNGu
1	0.01	0.04	0.25	1.00
2	0.02	0.04	0.50	1.00
3	0.03	0.04	0.75	1.00
4	0.04	0.04	1.00	1.00
5	0.05	0.04	1.25	1.00
6	0.06	0.04	1.50	1.00
7	0.08	0.04	2.00	1.00

The standards prepared on 7 Dec 1987 were used throughout the analysis period from 5 Jan 88 to 15 Jun 88. When not in use, the standard solutions were kept at 4° C in screw-cap volumetrics.

Samples from the feed mixtures and premix were extracted by adding varying amounts of water and the MNGu stock solution (1 ml/mg) as described in Table 2.

Table 2

Preparation of Feed Mixture Samples

Dose Level (mg/kg/day)	Gm of Diet Analyzed	Mls of MNGu Soln Added	Mls of Water Added	Total Volume (dilution factor)
100	1.00	1	24	25 (25)
316	1.00	4	96	100 (100)
1000	1.00	10	240	250 (250)
Premix (50 mg/g)	0.25	40	960	1000 (4000)*

*dilution factor = 1000 x 4 (to adjust final concentration to 1 g).

The samples were stirred for one hour. The supernatant from each tube was filtered through a Swinney adaptor with a millipore filter (0.2µm). This filtrate was subsequently analyzed by HPLC.

Appendix C (Cont.): Analysis of Feed Mixtures

To determine the homogeneity of the feed mixtures, samples were taken from the right, left and bottom ports of the Twin Shell Blender used in preparation of the diet and analyzed. Samples for testing homogeneity were collected during the first week of the study.

HPLC PARAMETERS

Column: Brownlee RP-18, Spheri 5 (250 x 4.6 mm)
Guard Column: Brownlee New Guard RP-18, 7 μ m
(15 x 3.2 mm)
Mobile Phase: 10% Methanol:90% Water
Flow Rate: 0.7 ml/min
Wavelength: 265 nm, 550 nm (ref. wavelength)
Injection Volume: 10 μ l
Peak Width: 0.1 min
Retention time: 4.8 min

CALCULATIONS

The ratio of NGu to MNGU peak areas was calculated for each of the standards and samples. Least squares linear regression analysis of the standard concentrations vs. the peak area ratios was performed to obtain a standard curve. The curve used was in the form of the best fitting line: $y = mx + b$, where y is the peak area ratio, m is the slope, x is the concentration of NGu and b is the y-intercept. The concentration of each extract was calculated by substituting for y the peak area ratio obtained from HPLC analysis and solving for x . All calculations were performed on a TI-55 scientific calculator. To calculate the concentration in the diet in terms of mg of NGu per gram of diet, the concentration of the extract was multiplied by the dilution factor and divided by the weight of the diet sample extracted. The experimental concentrations were compared to the target concentrations and reported as a percent of target.

RESULTS

The plots of NGu concentration versus peak area ratio were linear within the range of concentrations analyzed. The standard solutions were stable for the entire length of the study as can be seen by reproducibility of the standard curves. These results of the regression analysis for each run are shown in Table 3.

Appendix C (Cont.): Analysis of Feed Mixtures

Table 3

Regression Analysis Values from Each Run

Date of Run	y-intercept	Slope	Correlation Coefficient
5 Jan 88	0.0120	28.02	0.9999
6 Jan 88	0.0122	27.92	0.9999
7 Jan 88	0.0114	27.94	0.9999
11 Jan 88	0.0123	27.88	0.9999
12 Jan 88	0.0107	28.18	0.9999
14 Jan 88	0.0130	28.07	0.9999
26 Jan 88	0.0068	28.22	0.9999
27 Jan 88	0.0145	28.07	0.9999
2 Feb 88	0.0143	28.13	0.9999
14 Apr 88	0.0318	27.53	0.9993
18 Apr 88	0.0114	28.33	0.9999
19 Apr 88	0.0265	28.09	0.9995
15 Jun 88	0.0030	28.79	0.9999
19 Oct 88 ^a	0.0016	27.89	0.9999

^aNew standards were prepared for this day because the other standards had been mistakenly thrown out.

Under the conditions of the analysis, NGu eluted with a retention time of approximately 4.8 minutes, and MNGu eluted with a retention time of approximately 6.0 minutes. Only one sample was extracted and analyzed from each batch of feed, with the exception of sample #311. This sample was rerun later due to the loss of some feed in the original assay. For the second assay, two samples were taken and their results averaged. The results from the analysis of diet mixtures are shown in Table 4.

Appendix C (Cont.): Analysis of Feed Mixtures

Table 4

Analysis of Diet Mixtures

Sample #	Date Prepared	Date Analyzed	Conc. Det'n by Analysis	Target Conc. (mg NGu/g chow)	% of Target
1	15 Jul 87	5 Jan 88	155.5	150.0	103.7
2	16 Jul 87	5 Jan 88	1.170	1.27	92.1
3	16 Jul 87	5 Jan 88	1.190	1.27	93.7
4	16 Jul 87	5 Jan 88	1.203	1.27B	94.7
5	16 Jul 87	5 Jan 88	1.263	1.27L	99.4
6	16 Jul 87	5 Jan 88	1.250	1.27R	98.4
7	16 Jul 87	5 Jan 88	3.850	4.04B	95.3
8	16 Jul 87	5 Jan 88	3.950	4.04L	97.8
9	16 Jul 87	5 Jan 88	4.200	4.04R	104.0
10	16 Jul 87	5 Jan 88	4.140	4.04	102.5
11	16 Jul 87	5 Jan 88	4.110	4.04	101.7
12	16 Jul 87	5 Jan 88	12.83	12.71B	100.9
13	16 Jul 87	5 Jan 88	13.15	12.71L	103.5
14	16 Jul 87	5 Jan 88	12.63	12.71R	99.3
15	16 Jul 87	5 Jan 88	12.63	12.71	99.3
16	16 Jul 87	5 Jan 88	13.00	12.71	102.3
17	22 Jul 87	5 Jan 88	142.5	150.0	95.0
18	23 Jul 87	5 Jan 88	1.273	1.27	100.2
19	23 Jul 87	5 Jan 88	1.195	1.27	94.1
20	23 Jul 87	5 Jan 88	1.285	1.27	101.2
21	23 Jul 87	5 Jan 88	4.150	4.04	102.7
22	23 Jul 87	5 Jan 88	4.120	4.04	102.0
23	23 Jul 87	5 Jan 88	4.140	4.04	102.5
24	23 Jul 87	5 Jan 88	12.63	12.71	99.3
25	23 Jul 87	5 Jan 88	12.93	12.71	101.7
26	23 Jul 87	5 Jan 88	12.75	12.71	100.3
27	29 Jul 87	5 Jan 88	156.7	150.0	104.5
28	29 Jul 87	5 Jan 88	163.9	150.0	109.3
29	30 Jul 87	5 Jan 88	147.6	150.0	98.4
30	3 Aug 87	5 Jan 88	1.255	1.27	98.8
31	3 Aug 87	6 Jan 88	1.240	1.27	97.6
32	3 Aug 87	6 Jan 88	1.280	1.27	100.8
33	3 Aug 87	6 Jan 88	3.900	4.04	96.5
34	3 Aug 87	6 Jan 88	3.740	4.04	92.6
35	3 Aug 87	6 Jan 88	4.000	4.04	99.0
36	3 Aug 87	6 Jan 88	12.20	12.71	96.0
37	3 Aug 87	6 Jan 88	12.30	12.71	96.8
38	3 Aug 87	6 Jan 88	12.88	12.71	101.3
39	7 Aug 87	6 Jan 88	1.248	1.27	98.3

Appendix C (Cont.): Analysis of Feed Mixtures

Sample #	Date Prepared	Date Analyzed	Conc. Det'n by Analysis	Target Conc. (mg NGU/g chow)	% of Target
40	7 Aug 87	6 Jan 88	1.240	1.27	97.6
41	7 Aug 87	6 Jan 88	1.238	1.27	97.5
42	7 Aug 87	6 Jan 88	3.930	4.04	97.3
43	7 Aug 87	6 Jan 88	4.010	4.04	99.3
44	7 Aug 87	6 Jan 88	3.940	4.04	97.5
45	7 Aug 87	6 Jan 88	12.28	12.71	96.6
46	7 Aug 87	6 Jan 88	12.40	12.71	97.6
47	7 Aug 87	6 Jan 88	12.63	12.71	99.3
48	17 Aug 87	6 Jan 88	1.308	1.27	103.0
49	17 Aug 87	6 Jan 88	1.263	1.27	99.4
50	17 Aug 87	6 Jan 88	1.215	1.27	95.7
51	17 Aug 87	6 Jan 88	4.010	4.04	99.3
52	17 Aug 87	6 Jan 88	4.170	4.04	103.2
53	17 Aug 87	6 Jan 88	4.040	4.04	100.0
54	17 Aug 87	6 Jan 88	12.68	12.71	99.7
55	17 Aug 87	6 Jan 88	12.45	12.71	98.0
56	17 Aug 87	6 Jan 88	12.68	12.71	99.7
57	19 Aug 87	6 Jan 88	144.8	150.0	96.5
58	21 Aug 87	6 Jan 88	1.218	1.27	95.7
59	21 Aug 87	6 Jan 88	1.285	1.27	101.2
60	21 Aug 87	6 Jan 88	1.290	1.27	101.6
61	21 Aug 87	7 Jan 88	1.220	1.27	96.1
62	21 Aug 87	7 Jan 88	3.960	4.04	98.0
63	21 Aug 87	7 Jan 88	3.970	4.04	98.3
64	21 Aug 87	7 Jan 88	12.70	12.71	99.9
65	21 Aug 87	7 Jan 88	12.35	12.71	97.2
66	21 Aug 87	7 Jan 88	12.50	12.71	98.3
67	27 Aug 87	7 Jan 88	150.4	150.0	100.3
68	28 Aug 87	7 Jan 88	1.263	1.27	99.4
69	28 Aug 87	7 Jan 88	1.198	1.27	94.3
70	28 Aug 87	7 Jan 88	1.225	1.27	96.5
71	28 Aug 87	7 Jan 88	3.840	4.04	95.0
72	28 Aug 87	7 Jan 88	3.810	4.04	94.3
73	28 Aug 87	7 Jan 88	3.900	4.04	96.5
74	28 Aug 87	7 Jan 88	12.45	12.71	98.0
75	28 Aug 87	7 Jan 88	12.53	12.71	98.5
76	28 Aug 87	7 Jan 88	12.63	12.71	99.3
77	3 Sept 87	7 Jan 88	1.198	1.27	94.3
78	3 Sept 87	7 Jan 88	1.218	1.27	95.9
79	3 Sept 87	7 Jan 88	3.950	4.04	97.8
80	3 Sept 87	7 Jan 88	3.730	4.04	92.3
81	3 Sept 87	7 Jan 88	12.475	12.71	98.2
82	9 Sept 87	7 Jan 88	158.4	150.0	105.6
83	10 Sept 87	7 Jan 88	1.260	1.27	99.2
84	10 Sept 87	7 Jan 88	1.245	1.27	98.0

Appendix C (Cont.): Analysis of Feed Mixtures

Sample #	Date Prepared	Date Analyzed	Conc. Det'n by Analysis	Target Conc. (mg NGu/g chow)	% of Target
85	10 Sept 87	7 Jan 88	1.340	1.27	105.5
86	10 Sept 87	7 Jan 88	4.060	4.04	100.5
87	10 Sept 87	7 Jan 88	4.110	4.04	101.7
88	10 Sept 87	7 Jan 88	4.090	4.04	101.2
89	10 Sept 87	7 Jan 88	12.38	12.71	97.4
90	10 Sept 87	7 Jan 88	12.70	12.71	99.9
91	10 Sept 87	11 Jan 88	13.10	12.71	103.1
92	15 Sept 87	11 Jan 88	158.8	150.0	105.9
93	21 Sept 87	11 Jan 88	1.231	1.27	96.9
94	21 Sept 87	11 Jan 88	1.303	1.27	102.9
95	21 Sept 87	11 Jan 88	1.319	1.27	103.9
96	21 Sept 87	11 Jan 88	4.095	4.04	101.4
97	21 Sept 87	11 Jan 88	4.214	4.04	104.3
98	21 Sept 87	11 Jan 88	4.063	4.04	100.6
99	21 Sept 87	11 Jan 88	12.96	12.71	102.0
100	21 Sept 87	11 Jan 88	12.80	12.71	100.7
101	21 Sept 87	11 Jan 88	12.78	12.71	100.5
102	23 Sept 87	11 Jan 88	155.2	150.0	103.5
103	24 Sept 87	11 Jan 88	1.257	1.27	99.0
104	24 Sept 87	11 Jan 88	1.285	1.27	101.2
105	24 Sept 87	11 Jan 88	1.304	1.27	102.7
106	24 Sept 87	11 Jan 88	4.249	4.04	105.2
107	24 Sept 87	11 Jan 88	4.102	4.04	101.5
108	24 Sept 87	11 Jan 88	4.138	4.04	102.4
109	24 Sept 87	11 Jan 88	13.00	12.71	102.3
110	24 Sept 87	11 Jan 88	12.76	12.71	100.4
111	24 Sept 87	11 Jan 88	12.74	12.71	100.2
112	30 Sept 87	11 Jan 88	13.27	12.71	104.4
113	29 Sept 87	11 Jan 88	162.0	150.0	108.0
114	30 Sept 87	11 Jan 88	1.286	1.27	101.3
115	30 Sept 87	11 Jan 88	1.282	1.27	100.9
116	30 Sept 87	11 Jan 88	1.244	1.27	98.0
117	30 Sept 87	11 Jan 88	4.160	4.04	103.0
118	30 Sept 87	11 Jan 88	4.059	4.04	100.5
119	30 Sept 87	11 Jan 88	4.185	4.04	103.6
120	30 Sept 87	11 Jan 88	12.71	12.71	100.0
121	30 Sept 87	11 Jan 88	12.89	12.71	101.4
122	6 Oct 87	11 Jan 88	154.3	150.0	102.9
123	7 Oct 87	11 Jan 88	1.262	1.27	99.4
124	7 Oct 87	11 Jan 88	1.240	1.27	97.6
125	7 Oct 87	11 Jan 88	1.272	1.27	100.2
126	7 Oct 87	11 Jan 88	4.056	4.04	100.4
127	7 Oct 87	11 Jan 88	4.113	4.04	101.8
128	7 Oct 87	11 Jan 88	4.127	4.04	102.2
129	7 Oct 87	11 Jan 88	13.10	12.71	103.1

Appendix C (Cont.): Analysis of Feed Mixtures

Sample #	Date Prepared	Date Analyzed	Conc. Det'n by Analysis	Target Conc. (mg NGu/g chow)	% of Target
130	7 Oct 87	12 Jan 88	12.58	12.71	99.0
131	7 Oct 87	12 Jan 88	12.65	12.71	99.6
132	13 Oct 87	12 Jan 88	153.2	150.0	102.1
133	14 Oct 87	12 Jan 88	1.263	1.27	99.4
134	14 Oct 87	12 Jan 88	4.020	4.04	99.5
135	14 Oct 87	12 Jan 88	12.87	12.71	101.2
136	21 Oct 87	12 Jan 88	1.285	1.27	101.2
137	21 Oct 87	12 Jan 88	1.299	1.27	102.3
138	21 Oct 87	12 Jan 88	1.234	1.27	97.3
139	21 Oct 87	12 Jan 88	4.071	4.04	100.8
140	21 Oct 87	12 Jan 88	4.081	4.04	101.0
141	21 Oct 87	12 Jan 88	4.128	4.04	102.2
142	21 Oct 87	12 Jan 88	12.80	12.71	100.7
143	21 Oct 87	12 Jan 88	13.76	12.71	108.3
144	21 Oct 87	12 Jan 88	12.64	12.71	99.5
145	10 Nov 87	12 Jan 88	12.70	12.71	99.9
146	10 Nov 87	12 Jan 88	4.106	4.04	101.6
147	10 Nov 87	12 Jan 88	12.80	12.71	100.7
148	10 Nov 87	12 Jan 88	1.236	1.27	97.3
149	10 Nov 87	12 Jan 88	1.307	1.27	102.9
150	10 Nov 87	12 Jan 88	4.152	4.04	102.8
151	10 Nov 87	12 Jan 88	4.096	4.04	101.4
152	10 Nov 87	12 Jan 88	4.117	4.04	101.9
153	10 Nov 87	12 Jan 88	12.71	12.71	100.0
154	10 Nov 87	12 Jan 88	4.035	4.04	99.9
155	10 Nov 87	12 Jan 88	1.279	1.27	100.7
156	10 Nov 87	12 Jan 88	1.244	1.27	98.0
157	10 Nov 87	12 Jan 88	143.2	150.0	95.5
158	10 Nov 87	12 Jan 88	12.93	12.71	101.7
159	10 Nov 87	12 Jan 88	1.299	1.27	102.3
160	10 Nov 87	12 Jan 88	4.124	4.04	102.1
161	10 Nov 87	14 Jan 88	1.235	1.27	97.2
162	10 Nov 87	14 Jan 88	163.6	150.0	109.1
163	10 Nov 87	14 Jan 88	12.34	12.71	97.1
164	10 Nov 87	14 Jan 88	12.34	12.71	97.1
165	18 Nov 87	14 Jan 88	12.70	12.71	99.9
166	18 Nov 87	14 Jan 88	12.50	12.71	98.3
167	2 Dec 87	14 Jan 88	4.130	4.04	102.2
168	2 Dec 87	14 Jan 88	4.000	4.04	99.0
169	18 Nov 87	14 Jan 88	1.238	1.27	97.5
170	18 Nov 87	14 Jan 88	1.238	1.27	97.5
171	18 Nov 87	14 Jan 88	1.255	1.27	98.8
172	18 Nov 87	14 Jan 88	3.850	4.04	95.3
173	18 Nov 87	14 Jan 88	4.190	4.04	103.7
174	18 Nov 87	14 Jan 88	4.060	4.04	100.5

Appendix C (Cont.): Analysis of Feed Mixtures

Sample #	Date Prepared	Date Analyzed	Conc. Det'n by Analysis	Target Conc. (mg NGu/g chow)	% of Target
175	18 Nov 87	14 Jan 88	3.980	4.04	98.5
176	18 Nov 87	14 Jan 88	1.275	1.27	100.4
177	18 Nov 87	14 Jan 88	12.83	12.71	100.9
178	2 Dec 87	14 Jan 88	1.240	1.27	97.6
179	18 Nov 87	14 Jan 88	1.240	1.27	97.6
180	18 Nov 87	14 Jan 88	1.223	1.27	96.3
181	18 Nov 87	14 Jan 88	4.170	4.04	103.2
182	18 Nov 87	14 Jan 88	4.080	4.04	101.2
183	18 Nov 87	14 Jan 88	12.53	12.71	98.5
184	18 Nov 87	14 Jan 88	12.65	12.71	99.5
185	18 Nov 87	14 Jan 88	12.68	12.71	99.7
186	2 Dec 87	14 Jan 88	1.292	1.27	101.7
187	2 Dec 87	14 Jan 88	4.130	4.04	102.2
188	2 Dec 87	14 Jan 88	4.140	4.04	102.5
189	2 Dec 87	14 Jan 88	4.080	4.04	101.0
190	2 Dec 87	14 Jan 88	4.230	4.04	104.7
191	18 Nov 87	26 Jan 88	151.7	150.0	101.1
192	9 Dec 87	26 Jan 88	153.2	150.0	102.1
193	9 Dec 87	26 Jan 88	1.243	1.27	98.2
194	9 Dec 87	26 Jan 88	1.261	1.27	99.3
195	9 Dec 87	26 Jan 88	3.995	4.04	98.9
196	9 Dec 87	26 Jan 88	4.028	4.04	99.7
197	9 Dec 87	26 Jan 88	12.88	12.71	101.4
198	9 Dec 87	26 Jan 88	13.01	12.71	102.4
199	15 Dec 87	26 Jan 88	1.228	1.27	96.7
200	15 Dec 87	26 Jan 88	1.240	1.27	97.7
201	15 Dec 87	27 Jan 88	1.342	1.27	105.6
202	15 Dec 87	27 Jan 88	4.016	4.04	99.4
203	15 Dec 87	27 Jan 88	4.113	4.04	101.8
204	15 Dec 87	27 Jan 88	4.255	4.04	105.3
205	15 Dec 87	27 Jan 88	12.88	12.71	101.4
206	15 Dec 87	27 Jan 88	13.19	12.71	103.7
207	28 Dec 87	27 Jan 88	159.2	150.0	106.2
208	28 Dec 87	27 Jan 88	1.279	1.27	100.7
209	28 Dec 87	27 Jan 88	1.303	1.27	102.6
210	28 Dec 87	27 Jan 88	1.294	1.27	101.9
211	28 Dec 87	27 Jan 88	4.198	4.04	103.9
212	28 Dec 87	27 Jan 88	4.113	4.04	101.8
213	28 Dec 87	27 Jan 88	4.141	4.04	102.5
214	28 Dec 87	27 Jan 88	13.06	12.71	102.8
215	28 Dec 87	27 Jan 88	13.05	12.71	102.7
216	28 Dec 87	27 Jan 88	12.89	12.71	101.4
217	11 Jan 88	27 Jan 88	158.6	150.0	105.7
218	11 Jan 88	27 Jan 88	1.327	1.27	104.5
219	11 Jan 88	27 Jan 88	1.341	1.27	105.5

Appendix C (Cont.): Analysis of Feed Mixtures

Sample #	Date Prepared	Date Analyzed	Conc. Det'n by Analysis	Target Conc. (mg NGu/g chow)	% of Target
220	11 Jan 88	27 Jan 88	1.314	1.27	103.4
221	11 Jan 88	27 Jan 88	4.120	4.04	102.2
222	11 Jan 88	27 Jan 88	4.309	4.04	106.7
223	11 Jan 88	27 Jan 88	4.038	4.04	100.0
224	11 Jan 88	27 Jan 88	4.020	4.04	99.5
225	11 Jan 88	27 Jan 88	13.10	12.71	103.0
226	11 Jan 88	27 Jan 88	13.08	12.71	102.9
227	11 Jan 88	27 Jan 88	12.92	12.71	101.6
228	20 Jan 88	27 Jan 88	49.11	50.0	98.2
229	28 Jan 88	2 Feb 88	146.2	150.0	97.5
230	28 Jan 88	2 Feb 88	148.9	150.0	99.3
231	28 Jan 88	2 Feb 88	151.6	150.0	101.1
232	25 Jan 88	14 Apr 88	1.181	1.27	92.9
233	25 Jan 88	14 Apr 88	1.185	1.27	93.3
234	25 Jan 88	14 Apr 88	4.814	4.765	101.0
235	25 Jan 88	14 Apr 88	4.585	4.765	96.2
236	25 Jan 88	14 Apr 88	15.38	15.0	102.6
237	26 Jan 88	14 Apr 88	46.18	50.0	92.3
238	27 Jan 88	14 Apr 88	49.44	50.0	98.9
239	27 Jan 88	14 Apr 88	44.29	50.0	88.6
240	28 Jan 88	14 Apr 88	1.385	1.50	92.3
241	28 Jan 88	14 Apr 88	1.371	1.50	91.4
242	28 Jan 88	14 Apr 88	1.368	1.50	91.2
243	28 Jan 88	14 Apr 88	4.733	4.765	97.3
244	28 Jan 88	14 Apr 88	4.890	4.765	102.6
245	28 Jan 88	14 Apr 88	4.821	4.765	101.2
246	28 Jan 88	14 Apr 88	15.16	15.0	101.1
247	28 Jan 88	14 Apr 88	14.91	15.0	99.4
248	28 Jan 88	14 Apr 88	14.39	15.0	95.9
249	2 Feb 88	14 Apr 88	147.9	150.0	98.6
250	3 Feb 88	14 Apr 88	4.065	4.04	100.6
251	3 Feb 88	18 Apr 88	11.82	12.71	93.0
252	3 Feb 88	18 Apr 88	12.86	12.71	101.1
253	10 Feb 88	18 Apr 88	1.181	1.27	92.9
254	10 Feb 88	18 Apr 88	1.232	1.27	97.0
255	10 Feb 88	18 Apr 88	1.232	1.27	97.0
256	10 Feb 88	18 Apr 88	3.916	4.04	96.9
257	10 Feb 88	14 Apr 88	3.870	4.04	95.8
258	10 Feb 88	14 Apr 88	3.884	4.04	96.1
259	10 Feb 88	14 Apr 88	12.27	12.71	96.5
260	10 Feb 88	14 Apr 88	13.94	12.71	109.6
261	22 Feb 88	14 Apr 88	1.241	1.27	97.6
262	22 Feb 88	14 Apr 88	1.170	1.27	92.1
263	22 Feb 88	14 Apr 88	3.849	4.04	95.3
264	22 Feb 88	14 Apr 88	4.088	4.04	101.2

Appendix C (Cont.): Analysis of Feed Mixtures

Sample #	Date Prepared	Date Analyzed	Conc. Det'n by Analysis	Target Conc. (mg NGu/g chow)	% of Target
265	22 Feb 88	14 Apr 88	12.40	12.71	97.6
266	22 Feb 88	14 Apr 88	12.18	12.71	95.8
267	29 Feb 88	14 Apr 88	146.3	150.0	97.5
268	29 Feb 88	14 Apr 88	1.163	1.27	91.5
269	29 Feb 88	14 Apr 88	1.149	1.27	90.4
270	29 Feb 88	14 Apr 88	3.958	4.04	98.0
271	29 Feb 88	14 Apr 88	4.095	4.04	101.3
272	29 Feb 88	14 Apr 88	13.08	12.71	102.9
273	29 Feb 88	14 Apr 88	12.79	12.71	100.7
274	7 Mar 88	14 Apr 88	1.237	1.27	97.3
275	7 Mar 88	14 Apr 88	1.160	1.27	91.1
276	7 Mar 88	14 Apr 88	4.050	4.04	100.2
277	7 Mar 88	14 Apr 88	3.930	4.04	97.3
278	7 Mar 88	14 Apr 88	12.80	12.71	100.6
279	15 Mar 88	19 Apr 88	1.265	1.27	99.5
280	15 Mar 88	19 Apr 88	1.190	1.27	93.7
281	15 Mar 88	19 Apr 88	3.667	4.04	90.8
282	15 Mar 88	19 Apr 88	4.038	4.04	99.9
283	15 Mar 88	19 Apr 88	11.75	12.71	92.4
284	16 Mar 88	19 Apr 88	160.4	150.0	106.9
285	21 Mar 88	19 Apr 88	1.219	1.27	95.9
286	21 Mar 88	19 Apr 88	1.169	1.27	92.0
287	21 Mar 88	19 Apr 88	4.063	4.04	100.6
288	21 Mar 88	19 Apr 88	4.034	4.04	99.9
289	21 Mar 88	19 Apr 88	12.17	12.71	95.7
290	21 Mar 88	19 Apr 88	12.40	12.71	97.6
291	23 Mar 88	19 Apr 88	1.161	1.27	91.4
292	23 Mar 88	19 Apr 88	1.262	1.27	99.4
293	23 Mar 88	19 Apr 88	1.178	1.27	92.8
294	23 Mar 88	19 Apr 88	3.938	4.04	97.5
295	23 Mar 88	19 Apr 88	3.800	4.04	94.0
296	23 Mar 88	19 Apr 88	3.678	4.04	91.1
297	23 Mar 88	19 Apr 88	12.69	12.71	99.9
298	23 Mar 88	19 Apr 88	12.38	12.71	97.4
299	30 Mar 88	19 Apr 88	4.006	4.04	99.2
300	30 Mar 88	19 Apr 88	12.59	12.71	99.1
301	5 Apr 88	19 Apr 88	12.31	12.71	96.9
302	5 Apr 88	19 Apr 88	1.231	1.27	96.9
303	13 Apr 88	15 Jun 88	1.166	1.27	91.7
304	13 Apr 88	15 Jun 88	1.232	1.27	96.9
305	13 Apr 88	15 Jun 88	3.867	4.04	95.7
306	13 Apr 88	15 Jun 88	3.929	4.04	97.3
307	13 Apr 88	15 Jun 88	12.84	12.71	101.0
308	13 Apr 88	15 Jun 88	12.95	12.71	101.9
309	26 Apr 88	15 Jun 88	1.229	1.27	96.7

Appendix C (Cont.): Analysis of Feed Mixtures

Sample #	Date Prepared	Date Analyzed	Conc. Det'n by Analysis	Target Conc. (mg NGu/g chow)	% of Target
310	26 Apr 88	15 Jun 88	1.237	1.27	97.3
311	26 Apr 88	19 Oct 88	4.100	4.04	101.5
312	26 Apr 88	15 Jun 88	4.008	4.04	99.2
313	26 Apr 88	15 Jun 88	13.04	12.71	102.6
314	26 Apr 88	15 Jun 88	12.87	12.71	101.3
315	29 Apr 88	15 Jun 88	1.242	1.27	97.8
316	29 Apr 88	15 Jun 88	1.299	1.27	102.2
317	29 Apr 88	15 Jun 88	3.951	4.04	97.7
318	29 Apr 88	15 Jun 88	3.865	4.04	95.7
319	29 Apr 88	15 Jun 88	12.51	12.71	98.5
320	29 Apr 88	15 Jun 88	12.79	12.71	100.6

Results of the homogeneity study are shown in Table 5.

Table 5

Homogeneity

Week 1

Target Conc of NGu (mg/g)	Site of Sampling	Conc Detn by Analysis (mg/g)	Mean Conc (mg/g)	Absolute Deviation from Mean (%)
1.27	Bottom	1.203	1.238	2.8
	Left	1.263		2.0
	Right	1.250		0.9
4.04	Bottom	3.850	4.000	3.7
	Left	3.950		1.3
	Right	4.200		5.0
12.71	Bottom	12.83	12.87	0.3
	Left	13.15		2.2
	Right	12.63		1.9

Appendix C (Cont.): Analysis of Feed Mixtures

ANALYSIS OF NITROGUANIDINE
IN FEED MIXTURES

(GLP #87012)

WEEKLY SUMMARY

DATE	RANGE OF % TARGET VALUES
16 Jul 87	92.1 - 104.0
23 Jul 87	94.1 - 102.7
3 Aug 87	92.6 - 101.3
7 Aug 87	96.6 - 99.3
17 Aug 87	95.7 - 103.2
21 Aug 87	95.7 - 101.6
28 Aug 87	94.3 - 99.4
3 Sep 87	92.3 - 98.2
10 Sep 87	97.4 - 105.5
21 Sep 87	96.9 - 104.3
24 Sep 87	99.0 - 105.2
30 Sep 87	98.0 - 103.6
7 Oct 87	97.6 - 103.1
14 Oct 87	99.4 - 101.2
21 Oct 87	97.3 - 108.3
10 Nov 87	95.5 - 102.9
18 Nov 87	95.3 - 103.7
2 Dec 87	97.6 - 104.7
9 Dec 87	98.2 - 102.4
15 Dec 87	96.7 - 105.6
28 Dec 87	100.7 - 106.2
11 Jan 88	99.5 - 106.7
25 Jan 88	92.9 - 102.6
28 Jan 88	91.2 - 102.6
3 Feb 88	93.0 - 101.1
10 Feb 88	92.9 - 109.6
22 Feb 88	92.1 - 101.2
29 Feb 88	90.4 - 102.9
7 Mar 88	91.1 - 100.6
15 Mar 88	90.8 - 99.9
21 Mar 88	92.0 - 100.6
23 Mar 88	91.1 - 99.9
13 Apr 88	91.7 - 101.9
26 Apr 88	96.7 - 102.6
29 Apr 88	95.7 - 102.2

Appendix C (Cont.): Analysis of Feed Mixtures

DISCUSSION

The concentration of NGu in the diet mixtures was within 10% of the target concentration. Samples collected during the first week of the study showed that the NGu concentration was homogeneous in the feed over the range tested, according to the EPA criteria for homogeneity.²

REFERENCES

1. McKay AF, inventor; Honorary Advisory Council for Scientific and Industrial Research, Ottawa, assignee. 1-substituted-3-nitroguanidines. Can. patent 519,488. 1955 Dec 13. In: Chemical Abstracts, 1956; 50: 12107.
2. EPA, GLP Standards, Final Rule (40 CFR part 792) as published in the Federal Register, 29 Nov 1983, Vol. 48, No 230, pp. 53931-53933.

Appendix D: SCHEDULE OF STUDY EVENTS

DATE	EVENT
7 May 87	Date protocol approved.
8 Jul 87	Parental animals arrived at LAIR.
21 Jul 87	Parental males started on dosed feed.
22 Jul 87	Parental females started on dosed feed.
30 Sep - 6 Nov 87	Parental breeding period.
21 Oct - 12 Nov 87	Parental males euthanized.
23 Oct - 25 Nov 87	Birth of F ₁ litters.
14 Nov - 16 Dec 87	Weaning of F ₁ litters.
23 Oct - 17 Dec 87	Parental females and F ₁ pups not selected to continue in the study euthanized.
14 Nov 87 - 13 Mar 88	F ₁ pups matured to adulthood.
14 Mar - 9 Apr 88	F ₁ breeding period.
29 Mar - 13 Apr 88	F ₁ males euthanized.
4 Apr - 4 May 88	F ₁ females that did not breed, did not give birth, or pups died before Day 21 euthanized.
7 Apr - 1 May 88	Birth of F ₂ litters.
28 Apr - 22 May 88	Termination of study for F ₁ females and their F ₂ pups.
29 Apr - 23 May 88	F ₁ females and pups euthanized.

MALES	CONTROL	GRP 1	0 PPT
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
20	20	20	20
21	21	21	21
22	22	22	22
23	23	23	23
24	24	24	24
25	25	25	25
26	26	26	26
27	27	27	27
28	28	28	28
29	29	29	29
30	30	30	30
31	31	31	31
32	32	32	32
33	33	33	33
34	34	34	34
35	35	35	35
36	36	36	36
37	37	37	37
38	38	38	38
39	39	39	39
40	40	40	40
41	41	41	41
42	42	42	42
43	43	43	43
44	44	44	44
45	45	45	45
46	46	46	46
47	47	47	47
48	48	48	48
49	49	49	49
50	50	50	50
51	51	51	51
52	52	52	52
53	53	53	53
54	54	54	54
55	55	55	55
56	56	56	56
57	57	57	57
58	58	58	58
59	59	59	59
60	60	60	60
61	61	61	61
62	62	62	62
63	63	63	63
64	64	64	64
65	65	65	65
66	66	66	66
67	67	67	67
68	68	68	68
69	69	69	69
70	70	70	70
71	71	71	71
72	72	72	72
73	73	73	73
74	74	74	74
75	75	75	75
76	76	76	76
77	77	77	77
78	78	78	78
79	79	79	79
80	80	80	80
81	81	81	81
82	82	82	82
83	83	83	83
84	84	84	84
85	85	85	85
86	86	86	86
87	87	87	87
88	88	88	88
89	89	89	89
90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

[illegible]

87012P

APPENDIX E-1 cont

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
BODY WEIGHTS (GRAMS)

MALES	LOW DOSE	GRP 2	1.3 PPT														
				WEEK OF STUDY													
				0	1	2	3	4	5	6	7	8	9	10	11	12	13
ANIMAL#																	
8700313	248.0	285.0	319.0	346.0	363.0	379.0	395.0	410.0	434.0	443.0	452.0	432.0	454.0	467.0			
8700314	261.0	305.0	341.0	379.0	400.0	427.0	448.0	479.0	510.0	528.0	532.0	533.0	548.0	567.0			
8700317	268.0	304.0	340.0	369.0	383.0	400.0	424.0	436.0	464.0	486.0	488.0	492.0	503.0	524.0			
8700320	230.0	268.0	300.0	326.0	347.0	363.0	383.0	402.0	426.0	444.0	445.0	451.0	468.0	480.0			
8700323	254.0	289.0	306.0	331.0	349.0	368.0	385.0	405.0	429.0	443.0	460.0	457.0	468.0	483.0			
8700326	256.0	295.0	334.0	365.0	391.0	421.0	447.0	462.0	491.0	506.0	518.0	490.0	513.0	537.0			
8700329	237.0	298.0	301.0	331.0	350.0	368.0	378.0	401.0	419.0	429.0	441.0	439.0	441.0	458.0			
8700331	245.0	315.0	298.0	326.0	339.0	368.0	382.0	400.0	424.0	439.0	452.0	452.0	450.0	473.0			
8700332	265.0	298.0	351.0	390.0	411.0	437.0	458.0	482.0	510.0	529.0	545.0	540.0	552.0	552.0			
8700342	235.0	268.0	293.0	312.0	331.0	350.0	380.0	399.0	431.0	433.0	433.0	441.0	459.0	449.0			
8700346	241.0	269.0	292.0	322.0	340.0	358.0	377.0	393.0	414.0	433.0	439.0	450.0	457.0	467.0			
8700348	258.0	292.0	307.0	331.0	349.0	369.0	389.0	406.0	424.0	433.0	438.0	446.0	455.0	448.0			
8700359	251.0	294.0	322.0	350.0	365.0	382.0	396.0	415.0	440.0	450.0	459.0	462.0	473.0	491.0			
8700366	258.0	305.0	336.0	368.0	397.0	431.0	450.0	482.0	510.0	521.0	539.0	558.0	547.0	559.0			
8700374	264.0	302.0	338.0	376.0	401.0	432.0	454.0	471.0	506.0	522.0	525.0	536.0	547.0	572.0			
8700375	253.0	281.0	310.0	335.0	356.0	376.0	398.0	409.0	436.0	451.0	451.0	466.0	474.0	485.0			
8700376	241.0	286.0	328.0	366.0	393.0	419.0	446.0	470.0	494.0	514.0	525.0	537.0	533.0	544.0			
8700378	223.0	267.0	295.0	324.0	352.0	370.0	399.0	414.0	436.0	450.0	459.0	459.0	448.0	468.0			
8700380	230.0	260.0	287.0	313.0	338.0	356.0	377.0	392.0	414.0	428.0	430.0	444.0	427.0	450.0			
8700381	242.0	273.0	304.0	327.0	337.0	356.0	370.0	391.0	416.0	436.0	438.0	450.0	458.0	477.0			
8700390	233.0	267.0	274.0	320.0	346.0	365.0	387.0	405.0	432.0	442.0	455.0	463.0	451.0	480.0			
8700396	236.0	269.0	300.0	336.0	360.0	381.0	401.0	418.0	436.0	452.0	462.0	468.0	469.0	482.0			
8700397	250.0	298.0	339.0	377.0	401.0	428.0	451.0	472.0	499.0	513.0	526.0	540.0	545.0	541.0			
8700406	268.0	313.0	346.0	378.0	405.0	429.0	466.0	489.0	521.0	540.0	550.0	566.0	565.0	572.0			
8700411	224.0	259.0	295.0	321.0	344.0	360.0	382.0	410.0	431.0	445.0	460.0	469.0	466.0	469.0			
MEAN	246.84	286.12	314.24	344.76	365.92	387.72	408.92	428.52	453.88	468.40	477.28	481.64	486.84	499.80			
S.D.	13.55	17.02	21.59	24.43	26.17	30.07	32.46	34.67	37.57	39.27	40.65	42.56	42.83	42.48			
N	25	25	25	25	25	25	25	25	25	25	25	25	25	25			

APPENDIX E-1 cont
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 BODY WEIGHTS (GRAMS)

87012P

MALES MID DOSE GRP 3 4 PPT

ANIMAL#	WEEK OF STUDY												
	0	1	2	3	4	5	6	7	8	9	10	11	12
8700311	251.0	286.0	319.0	355.0	370.0	386.0	405.0	421.0	443.0	447.0	451.0	460.0	473.0
8700315	228.0	273.0	313.0	349.0	371.0	392.0	408.0	430.0	448.0	462.0	459.0	457.0	447.0
8700316	235.0	261.0	281.0	307.0	319.0	335.0	353.0	369.0	388.0	400.0	409.0	419.0	418.0
8700319	243.0	282.0	315.0	355.0	382.0	406.0	429.0	451.0	485.0	507.0	511.0	522.0	534.0
8700322	243.0	284.0	317.0	360.0	387.0	418.0	443.0	465.0	499.0	529.0	534.0	559.0	567.0
8700325	268.0	301.0	300.0	358.0	393.0	420.0	445.0	474.0	496.0	520.0	537.0	546.0	558.0
8700333	262.0	299.0	327.0	358.0	372.0	392.0	404.0	423.0	449.0	464.0	480.0	499.0	480.0
8700338	243.0	287.0	320.0	359.0	382.0	404.0	428.0	450.0	479.0	498.0	513.0	516.0	533.0
8700341	253.0	286.0	322.0	353.0	376.0	397.0	391.0	424.0	455.0	479.0	478.0	487.0	505.0
8700350	255.0	290.0	319.0	352.0	373.0	396.0	420.0	438.0	456.0	474.0	479.0	480.0	492.0
8700355	250.0	280.0	314.0	337.0	353.0	363.0	393.0	414.0	438.0	447.0	466.0	448.0	458.0
8700361	247.0	272.0	292.0	313.0	326.0	339.0	354.0	362.0	383.0	393.0	377.0	396.0	404.0
8700362	268.0	311.0	344.0	370.0	397.0	415.0	441.0	457.0	478.0	490.0	512.0	511.0	521.0
8700365	246.0	283.0	310.0	347.0	365.0	383.0	405.0	424.0	442.0	462.0	479.0	489.0	497.0
8700367	270.0	314.0	347.0	377.0	406.0	433.0	465.0	497.0	511.0	527.0	540.0	553.0	555.0
8700370	231.0	263.0	280.0	302.0	319.0	331.0	353.0	366.0	387.0	394.0	408.0	413.0	405.0
8700384	259.0	300.0	331.0	367.0	398.0	413.0	438.0	464.0	490.0	504.0	516.0	526.0	511.0
8700386	250.0	291.0	323.0	353.0	372.0	387.0	403.0	422.0	448.0	461.0	406.0	469.0	459.0
8700389	259.0	284.0	308.0	334.0	354.0	377.0	394.0	414.0	433.0	452.0	462.0	467.0	474.0
8700391	227.0	273.0	299.0	324.0	346.0	368.0	385.0	410.0	428.0	447.0	459.0	472.0	468.0
8700398	246.0	282.0	317.0	343.0	370.0	391.0	416.0	425.0	452.0	479.0	493.0	503.0	508.0
8700399	232.0	268.0	289.0	312.0	326.0	347.0	363.0	379.0	404.0	420.0	429.0	433.0	442.0
8700401	238.0	277.0	310.0	341.0	355.0	375.0	404.0	422.0	447.0	458.0	474.0	483.0	491.0
8700409	244.0	284.0	319.0	348.0	370.0	391.0	414.0	437.0	471.0	485.0	497.0	509.0	520.0
8700410	230.0	267.0	293.0	315.0	333.0	349.0	366.0	378.0	395.0	410.0	415.0	422.0	420.0
MEAN	247.12	283.92	312.36	343.56	364.60	384.32	404.80	424.64	448.20	464.36	471.36	480.80	486.36
S.D.	12.70	13.66	17.00	20.61	25.04	27.95	30.77	34.63	36.29	39.56	44.79	44.11	47.03
N	25	25	25	25	25	25	25	25	25	25	25	25	25

498.44
 45.52
 25

MALES HIGH DOSE GRP 4 12.7 PPT

ANIMAL#	WEEK OF STUDY													
	0	1	2	3	4	5	6	7	8	9	10	11	12	13
8700321	248.0	278.0	302.0	329.0	346.0	364.0	388.0	403.0	428.0	440.0	444.0	425.0	435.0	464.0
8700327	253.0	266.0	331.0	366.0	386.0	406.0	429.0	449.0	473.0	489.0	495.0	489.0	504.0	525.0
8700334	272.0	307.0	340.0	378.0	407.0	425.0	445.0	462.0	487.0	507.0	517.0	495.0	516.0	538.0
8700335	222.0	242.0	261.0	287.0	277.0	302.0	321.0	339.0	351.0	366.0	376.0	378.0	385.0	401.0
8700337	262.0	289.0	325.0	357.0	369.0	395.0	417.0	437.0	462.0	477.0	498.0	493.0	498.0	504.0
8700340	253.0	279.0	308.0	335.0	361.0	378.0	395.0	412.0	431.0	443.0	453.0	448.0	460.0	468.0
8700343	264.0	294.0	332.0	371.0	391.0	410.0	435.0	453.0	476.0	498.0	497.0	498.0	519.0	532.0
8700344	253.0	288.0	326.0	355.0	376.0	396.0	417.0	435.0	461.0	477.0	483.0	486.0	495.0	511.0
8700345	225.0	254.0	271.0	294.0	307.0	324.0	342.0	351.0	373.0	385.0	389.0	394.0	391.0	425.0
8700352	259.0	298.0	334.0	373.0	402.0	429.0	454.0	480.0	511.0	526.0	535.0	530.0	554.0	558.0
8700357	245.0	272.0	298.0	330.0	354.0	376.0	404.0	420.0	446.0	457.0	480.0	484.0	500.0	507.0
8700360	252.0	275.0	301.0	333.0	354.0	374.0	391.0	421.0	450.0	467.0	489.0	485.0	511.0	520.0
8700363	238.0	283.0	315.0	351.0	367.0	390.0	409.0	432.0	456.0	470.0	482.0	482.0	495.0	509.0
8700372	265.0	292.0	318.0	336.0	354.0	374.0	393.0	409.0	427.0	446.0	454.0	464.0	467.0	484.0
8700382	250.0	292.0	323.0	358.0	384.0	406.0	430.0	461.0	490.0	516.0	530.0	528.0	544.0	559.0
8700383	260.0	295.0	327.0	362.0	389.0	428.0	454.0	482.0	513.0	536.0	546.0	563.0	556.0	562.0
8700385	242.0	275.0	306.0	326.0	347.0	362.0	386.0	406.0	429.0	438.0	457.0	465.0	471.0	493.0
8700387	217.0	236.0	257.0	272.0	287.0	305.0	319.0	333.0	354.0	362.0	374.0	373.0	378.0	388.0
8700388	235.0	268.0	304.0	332.0	361.0	386.0	407.0	423.0	444.0	466.0	477.0	488.0	497.0	522.0
8700393	242.0	310.0	305.0	330.0	362.0	392.0	417.0	442.0	465.0	480.0	498.0	505.0	516.0	531.0
8700400	246.0	280.0	316.0	351.0	372.0	388.0	407.0	426.0	449.0	468.0	479.0	486.0	489.0	501.0
8700402	220.0	261.0	298.0	327.0	346.0	367.0	378.0	402.0	434.0	452.0	466.0	467.0	475.0	485.0
8700403	245.0	272.0	298.0	339.0	348.0	373.0	393.0	413.0	441.0	455.0	467.0	482.0	471.0	482.0
8700404	260.0	297.0	339.0	337.0	394.0	419.0	445.0	471.0	495.0	513.0	526.0	540.0	542.0	568.0
MEAN	247.00	279.29	309.79	338.29	360.04	382.04	403.17	423.42	447.75	463.92	475.50	477.00	486.21	501.54
S.D.	14.91	18.69	22.55	26.53	32.68	34.24	36.63	39.71	42.45	45.19	45.72	46.92	49.16	47.37
n	24	24	24	24	24	24	24	24	24	24	24	24	24	24

FEMALES CONTROL GRP 1 0 PPT

ANIMAL#	WEEK OF STUDY														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
8700413	182.0	193.0	197.0	205.0	213.0	214.0	221.0	223.0	233.0	227.0	233.0	239.0	252.0		
8700421	194.0	210.0	214.0	226.0	226.0	243.0	251.0	261.0	275.0	274.0	275.0	281.0	287.0		
8700425	194.0	209.0	233.0	236.0	247.0	250.0	251.0	267.0	276.0	275.0	276.0	277.0			
8700430	202.0	213.0	211.0	210.0	226.0	222.0	225.0	235.0	244.0	240.0	246.0	246.0			
8700431	190.0	215.0	227.0	237.0	252.0	263.0	262.0	272.0	289.0	287.0	292.0	292.0			
8700437	201.0	224.0	237.0	245.0	253.0	265.0	270.0	280.0	283.0	289.0	289.0	298.0			
8700440	218.0	227.0	241.0	245.0	255.0	256.0	268.0	280.0	292.0	282.0	298.0	298.0			
8700442	198.0	216.0	226.0	238.0	240.0	258.0	260.0	266.0	266.0	267.0	277.0	277.0			
8700445	199.0	207.0	222.0	225.0	239.0	235.0	244.0	246.0	246.0	262.0	266.0	266.0	323.0		
8700446	224.0	231.0	246.0	246.0	263.0	264.0	279.0	280.0	296.0	296.0	294.0	283.0			
8700447	212.0	224.0	232.0	235.0	260.0	257.0	261.0	264.0	264.0	281.0	283.0	283.0			
8700448	204.0	230.0	234.0	246.0	267.0	265.0	265.0	285.0	285.0	301.0	304.0	304.0			
8700460	202.0	218.0	230.0	242.0	257.0	261.0	266.0	272.0	272.0	291.0	291.0	291.0			
8700461	212.0	226.0	237.0	249.0	257.0	265.0	264.0	268.0	268.0	269.0	273.0	273.0			
8700465	202.0	217.0	226.0	229.0	242.0	244.0	244.0	254.0	261.0	263.0	264.0	264.0			
8700472	217.0	226.0	230.0	232.0	245.0	260.0	260.0	267.0	277.0	283.0	287.0	287.0			
8700479	207.0	217.0	227.0	240.0	257.0	257.0	257.0	270.0	283.0	274.0	284.0	284.0			
8700484	182.0	202.0	210.0	213.0	229.0	235.0	235.0	230.0	243.0	243.0	240.0	247.0			
8700496	219.0	244.0	259.0	263.0	279.0	296.0	305.0	312.0	326.0	328.0	334.0	333.0			
8700498	214.0	224.0	250.0	257.0	279.0	288.0	286.0	302.0	316.0	313.0	326.0	319.0			
8700507	190.0	210.0	225.0	234.0	256.0	268.0	281.0	296.0	311.0	311.0	319.0	330.0			
8700509	213.0	236.0	256.0	270.0	277.0	291.0	296.0	306.0	306.0	305.0	313.0	320.0			
8700512	196.0	211.0	238.0	246.0	260.0	272.0	285.0	287.0	267.0	263.0	269.0	273.0			
8700520	200.0	206.0	216.0	224.0	231.0	231.0	240.0	254.0	232.0	235.0	235.0	237.0			
8700523	178.0	137.0	188.0	202.0	206.0	212.0	219.0	221.0	232.0	232.0	269.0	267.0			
8700525	187.0	142.0	202.0	213.0	228.0	236.0	232.0	267.0	256.0	260.0	269.0	275.0			
8700535	191.0	204.0	226.0	232.0	251.0	259.0	260.0	275.0	279.0	284.0	295.0	298.0			
8700535	179.0	199.0	210.0	212.0	218.0	218.0	226.0	234.0	246.0	245.0	250.0	249.0			
8700542	190.0	207.0	216.0	217.0	237.0	234.0	244.0	250.0	266.0	263.0	274.0	272.0			
8700545	201.0	216.0	222.0	239.0	256.0	267.0	279.0	292.0	292.0	290.0	294.0	298.0			
8700546	215.0	236.0	245.0	251.0	263.0	264.0	276.0	279.0	287.0	287.0	295.0	298.0			
8700548	208.0	215.0	231.0	240.0	251.0	254.0	266.0	276.0	273.0	280.0	298.0	289.0			
8700550	207.0	220.0	220.0	231.0	240.0	238.0	244.0	254.0	261.0	269.0	266.0	275.0			
8700551	216.0	226.0	245.0	255.0	261.0	264.0	278.0	290.0	306.0	298.0	311.0	314.0			
MEAN	201.29	212.88	227.32	234.85	248.00	253.12	258.56	267.12	275.91	277.97	283.85	288.30	292.82	297.17	301.80
S.D.	12.35	21.74	16.01	16.37	18.75	20.59	21.22	22.75	24.08	23.81	25.69	28.96	29.11	29.28	32.87
N	34	34	34	34	34	34	34	34	34	34	34	23	17	6	5

87012P
 APPENDIX E-2 cont
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 BODY WEIGHTS (GRAMS)

FEMALES LOW DOSE GRP 2 1.3 PPT																	
			WEEK OF STUDY														
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
ANIMAL#																	
8700412			231.0	250.0	260.0	264.0	270.0	278.0	285.0	292.0	302.0	298.0	307.0				
8700424			166.0	169.0	176.0	179.0	187.0	191.0	194.0	201.0	210.0	209.0	224.0				
8700433			205.0	217.0	238.0	235.0	246.0	247.0	255.0	260.0	268.0	277.0	276.0				
8700438			212.0	224.0	250.0	251.0	260.0	278.0	279.0	287.0	303.0	306.0	314.0				
8700441			211.0	213.0	231.0	234.0	253.0	256.0	262.0	270.0	273.0	284.0	296.0				
8700448			204.0	214.0	236.0	242.0	248.0	247.0	253.0	262.0	270.0	270.0	284.0	295.0	304.0		
8700449			218.0	231.0	245.0	243.0	261.0	255.0	262.0	273.0	285.0	289.0	296.0	308.0	319.0		
8700452			214.0	225.0	243.0	248.0	257.0	264.0	265.0	275.0	279.0	281.0	287.0	289.0			
8700454			229.0	229.0	246.0	253.0	258.0	264.0	268.0	277.0	289.0	285.0	298.0				
8700457			216.0	225.0	229.0	231.0	244.0	246.0	248.0	259.0	266.0	267.0	279.0				
8700462			177.0	196.0	203.0	207.0	220.0	217.0	230.0	234.0	248.0	244.0	252.0	256.0	266.0		
8700463			198.0	207.0	226.0	225.0	239.0	234.0	241.0	254.0	263.0	264.0	267.0				
8700464			176.0	190.0	199.0	200.0	214.0	220.0	225.0	233.0	246.0	248.0	253.0				
8700468			191.0	196.0	204.0	213.0	224.0	226.0	229.0	239.0	251.0	249.0	257.0	255.0			
8700473			214.0	230.0	249.0	243.0	253.0	264.0	273.0	279.0	284.0	288.0	297.0	298.0			
8700475			213.0	222.0	233.0	232.0	245.0	238.0	234.0	246.0	255.0	252.0	261.0	263.0			
8700476			203.0	217.0	230.0	233.0	250.0	247.0	254.0	264.0	273.0	277.0	280.0	290.0	305.0	315.0	
8700487			210.0	240.0	260.0	268.0	292.0	297.0	308.0	317.0	333.0	339.0	348.0	346.0	353.0	366.0	361.0
8700488			212.0	243.0	266.0	275.0	296.0	301.0	308.0	314.0	329.0	330.0	342.0	347.0	358.0	368.0	
8700491			232.0	249.0	261.0	271.0	294.0	297.0	306.0	312.0	333.0	340.0	349.0	349.0			
8700492			187.0	202.0	212.0	232.0	241.0	249.0	255.0	265.0	268.0	275.0	284.0	287.0	295.0	316.0	322.0
8700495			218.0	231.0	258.0	269.0	283.0	294.0	302.0	312.0	323.0	327.0	331.0	338.0	338.0	340.0	
8700499			197.0	211.0	222.0	228.0	245.0	250.0	261.0	266.0	282.0	284.0	292.0	290.0	302.0		
8700501			189.0	205.0	216.0	218.0	228.0	226.0	234.0	241.0	246.0	251.0	260.0	261.0	291.0		
8700502			192.0	202.0	212.0	226.0	240.0	245.0	252.0	262.0	275.0	276.0	278.0	284.0			
8700518			215.0	227.0	236.0	240.0	247.0	252.0	250.0	269.0	280.0	275.0	288.0	299.0			
8700519			205.0	214.0	225.0	220.0	237.0	233.0	246.0	261.0	272.0	284.0	287.0	292.0			
8700522			202.0	156.0	201.0	225.0	236.0	244.0	250.0	247.0	267.0	263.0	266.0	276.0			
8700529			184.0	198.0	214.0	214.0	235.0	238.0	244.0	255.0	268.0	275.0	276.0	284.0			
8700531			172.0	175.0	189.0	196.0	197.0	199.0	212.0	214.0	222.0	223.0	226.0	233.0	237.0		
8700533			193.0	206.0	215.0	229.0	242.0	245.0	263.0	277.0	264.0	276.0	280.0	278.0	309.0		
8700534			192.0	204.0	210.0	218.0	225.0	227.0	232.0	245.0	256.0	249.0	254.0	256.0	265.0		
8700536			199.0	213.0	215.0	232.0	241.0	252.0	259.0	276.0	287.0	287.0	292.0	300.0	308.0		
8700544			199.0	213.0	224.0	227.0	236.0	235.0	239.0	250.0	266.0	269.0	277.0	279.0	280.0		
8700549			212.0	232.0	228.0	251.0	252.0	266.0	270.0	287.0	292.0	301.0	299.0	314.0	316.0		
MEAN			202.51	213.60	227.49	233.49	245.54	249.20	255.66	265.00	275.09	277.49	284.49	291.04	302.88	341.00	341.50
S.D.			16.17	21.00	21.75	21.68	23.75	25.64	25.94	26.34	27.56	28.95	29.17	29.81	31.78	25.77	27.58
N			35	35	35	35	35	35	35	35	35	35	35	26	16	5	2

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APPENDIX E-2 cont

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE

PARENTAL GENERATION

BODY WEIGHTS (GRAMS)

SEX	MID DOSE	GRP	3	4	PPT														
ANIMAL#	WEEK OF STUDY																		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14				
8700415	177.0	196.0	206.0	208.0	212.0	216.0	228.0	233.0	234.0	236.0	243.0								
8700417	212.0	228.0	234.0	247.0	253.0	256.0	268.0	278.0	287.0	292.0	301.0	302.0	308.0						
8700420	191.0	207.0	216.0	218.0	229.0	233.0	239.0	242.0	252.0	254.0	260.0								
8700422	185.0	187.0	191.0	196.0	198.0	205.0	204.0	210.0	213.0	206.0	215.0								
8700427	202.0	225.0	237.0	248.0	259.0	257.0	262.0	272.0	285.0	283.0	284.0								
8700432	200.0	205.0	217.0	221.0	230.0	246.0	247.0	255.0	271.0	261.0	272.0								
8700435	204.0	214.0	220.0	228.0	234.0	244.0	253.0	268.0	285.0	285.0	293.0								
8700436	218.0	236.0	238.0	245.0	250.0	244.0	260.0	269.0	273.0	273.0	279.0								
8700443	215.0	217.0	230.0	230.0	250.0	249.0	266.0	267.0	282.0	280.0	286.0								
8700444	191.0	192.0	210.0	203.0	220.0	214.0	222.0	226.0	235.0	237.0	236.0	241.0							
8700453	210.0	213.0	233.0	239.0	242.0	247.0	253.0	263.0	265.0	272.0	271.0								
8700455	226.0	231.0	239.0	256.0	276.0	268.0	275.0	291.0	308.0	307.0	304.0								
8700456	194.0	204.0	213.0	219.0	229.0	236.0	239.0	250.0	260.0	255.0	264.0								
8700459	218.0	233.0	234.0	239.0	246.0	251.0	257.0	265.0	268.0	273.0	276.0								
8700466	219.0	228.0	248.0	253.0	262.0	267.0	276.0	281.0	291.0	300.0	301.0	296.0							
8700469	200.0	216.0	232.0	247.0	268.0	271.0	275.0	291.0	302.0	296.0	305.0								
8700471	194.0	205.0	216.0	219.0	230.0	234.0	240.0	250.0	263.0	264.0	262.0	264.0							
8700478	195.0	208.0	231.0	236.0	255.0	242.0	256.0	261.0	273.0	269.0	278.0	283.0							
8700480	220.0	234.0	240.0	250.0	260.0	268.0	265.0	268.0	291.0	282.0	297.0	299.0							
8700486	198.0	222.0	237.0	243.0	264.0	264.0	272.0	277.0	292.0	300.0	296.0	295.0							
8700489	214.0	249.0	276.0	289.0	306.0	321.0	330.0	341.0	353.0	357.0	373.0	372.0							
8700490	204.0	225.0	245.0	258.0	265.0	273.0	278.0	287.0	294.0	297.0	305.0	301.0							
8700493	171.0	178.0	188.0	188.0	199.0	204.0	209.0	215.0	220.0	223.0	228.0	230.0							
8700494	199.0	213.0	222.0	228.0	240.0	247.0	254.0	255.0	266.0	270.0	276.0	277.0							
8700508	212.0	211.0	220.0	224.0	231.0	228.0	241.0	249.0	261.0	254.0	268.0	271.0	265.0	286.0	278.0				
8700511	203.0	213.0	217.0	209.0	226.0	227.0	233.0	238.0	246.0	248.0	255.0	256.0							
8700515	203.0	220.0	234.0	247.0	267.0	269.0	276.0	286.0	305.0	301.0	305.0	312.0							
8700516	209.0	216.0	218.0	228.0	240.0	234.0	239.0	250.0	263.0	258.0	260.0	264.0							
8700524	189.0	142.0	194.0	211.0	227.0	227.0	235.0	244.0	255.0	263.0	269.0	271.0	277.0	296.0	291.0				
8700526	169.0	138.0	192.0	198.0	212.0	208.0	215.0	218.0	232.0	225.0	239.0	238.0	250.0						
8700527	207.0	161.0	227.0	234.0	263.0	264.0	276.0	272.0	296.0	299.0	308.0	320.0	324.0	343.0					
8700537	195.0	206.0	221.0	228.0	242.0	246.0	250.0	261.0	272.0	278.0	276.0	286.0	292.0						
8700543	204.0	208.0	219.0	233.0	236.0	250.0	244.0	253.0	266.0	273.0	274.0	277.0	283.0	296.0	304.0				
8700547	212.0	226.0	240.0	242.0	257.0	254.0	264.0	269.0	276.0	283.0	285.0	291.0	294.0	296.0	310.0				
MEAN	201.76	209.03	224.56	231.24	243.47	246.00	252.97	260.44	271.62	271.88	277.76	282.86	284.00	303.00	295.75				
S.D.	13.59	24.54	18.09	20.78	22.70	23.58	24.25	25.44	27.65	28.74	29.03	31.47	24.56	22.74	14.24				
N	34	34	34	34	34	34	34	34	34	34	34	21	11	5	4				

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APPENDIX E-2 cont
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
BODY WEIGHTS (GRAMS)

FEEMALES HIGH DOSE GRP 4 12.7 PPT

ANIMAL#	WEEK OF STUDY							9	10	11	12	13	14	
	0	1	2	3	4	5	6							7
8700414	202.0	223.0	238.0	244.0	261.0	267.0	270.0	276.0	285.0	285.0	303.0	311.0	340.0	334.0
8700416	214.0	238.0	253.0	260.0	272.0	281.0	288.0	291.0	302.0	301.0	299.0			
8700418	178.0	147.0	182.0	189.0	206.0	206.0	212.0	222.0	227.0	232.0	238.0	245.0	266.0	265.0
8700419	184.0	199.0	209.0	211.0	217.0	225.0	228.0	236.0	248.0	240.0	251.0			
8700423	194.0	196.0	207.0	207.0	231.0	222.0	226.0	233.0	241.0	246.0	251.0			
8700426	178.0	185.0	189.0	193.0	202.0	203.0	208.0	218.0	224.0	217.0	225.0			
8700429	207.0	214.0	220.0	223.0	234.0	237.0	242.0	234.0	240.0	247.0				
8700434	209.0	210.0	219.0	220.0	228.0	238.0	238.0	248.0	258.0	263.0	267.0			
8700439	223.0	224.0	242.0	243.0	252.0	261.0	267.0	279.0	286.0	294.0	295.0			
8700450	188.0	204.0	211.0	209.0	218.0	226.0	228.0	238.0	242.0	238.0	252.0			
8700451	205.0	206.0	220.0	225.0	232.0	235.0	241.0	251.0	257.0	257.0	265.0			
8700458	217.0	216.0	223.0	230.0	244.0	252.0	258.0	262.0	275.0	268.0	280.0			
8700467	197.0	205.0	212.0	218.0	228.0	231.0	238.0	247.0	261.0	260.0	262.0	255.0		
8700477	209.0	211.0	216.0	227.0	241.0	245.0	248.0	258.0	264.0	262.0	267.0	263.0		
8700481	221.0	231.0	240.0	252.0	262.0	266.0	276.0	284.0	301.0	298.0	306.0	301.0		
8700482	222.0	232.0	243.0	246.0	255.0	258.0	271.0	279.0	287.0	289.0	296.0	297.0		
8700485	201.0	214.0	236.0	239.0	253.0	260.0	264.0	272.0	280.0	291.0	290.0	299.0		
8700497	200.0	206.0	220.0	227.0	236.0	240.0	250.0	260.0	267.0	274.0	279.0	279.0		
8700500	186.0	200.0	210.0	210.0	219.0	216.0	226.0	227.0	234.0	233.0	237.0	244.0	268.0	281.0
8700503	198.0	193.0	196.0	211.0	212.0	215.0	231.0	235.0	249.0	245.0	253.0	254.0		
8700504	192.0	197.0	208.0	211.0	222.0	223.0	232.0	242.0	245.0	242.0	254.0	254.0		
8700505	240.0	247.0	258.0	254.0	265.0	273.0	277.0	281.0	289.0	294.0	302.0	297.0		
8700506	209.0	223.0	242.0	248.0	266.0	273.0	279.0	289.0	298.0	299.0	303.0	301.0		
8700510	235.0	242.0	252.0	257.0	264.0	274.0	278.0	289.0	299.0	304.0	311.0	314.0		
8700513	191.0	203.0	222.0	230.0	243.0	251.0	257.0	265.0	266.0	272.0	279.0	279.0	282.0	
8700514	194.0	200.0	218.0	229.0	240.0	241.0	249.0	255.0	256.0	256.0	260.0	262.0	279.0	
8700517	207.0	207.0	219.0	220.0	236.0	227.0	241.0	242.0	250.0	266.0	270.0	264.0	274.0	
8700521	219.0	223.0	232.0	248.0	259.0	261.0	267.0	278.0	285.0	284.0	279.0	289.0	289.0	
8700528	194.0	205.0	211.0	222.0	233.0	236.0	241.0	250.0	258.0	263.0	257.0	259.0	268.0	
8700530	202.0	205.0	217.0	222.0	233.0	216.0	219.0	220.0	224.0	231.0	237.0	236.0	249.0	
8700532	213.0	214.0	236.0	253.0	276.0	280.0	289.0	302.0	322.0	323.0	323.0	329.0	336.0	
8700538	190.0	196.0	212.0	216.0	227.0	233.0	228.0	239.0	242.0	254.0	257.0	259.0	263.0	
3700539	199.0	210.0	129.0	201.0	218.0	235.0	244.0	251.0	263.0	271.0	278.0	273.0	284.0	
8700540	199.0	205.0	224.0	223.0	246.0	248.0	259.0	265.0	267.0	276.0	275.0	284.0	289.0	303.0
MEAN	203.44	209.74	219.59	226.50	238.24	242.79	249.00	256.71	264.68	266.50	271.85	276.92	283.23	292.25
S.D.	14.77	18.16	23.72	18.96	20.16	21.62	21.98	22.70	25.06	25.47	24.42	25.03	26.60	29.57
N.	34	34	34	34	34	34	34	34	34	34	34	24	13	4

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APPENDIX E-3

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION

INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

CONTROL GRP 1 0 PPT		DAY OF GESTATION			
FEMALE#		0	7	14	21
87D0413x	NP				
87D0421		280.0	299.0	322.0	418.0
87D0425		286.0	296.0	331.0	367.0
87D0430		229.0	270.0	295.0	341.0
87D0431		275.0	312.0	345.0	383.0
87D0437		278.0	314.0	348.0	420.0
87D0440x	NP				
87D0442		270.0	301.0	328.0	408.0
87D0445		264.0	282.0	301.0	
87D0446		319.0	336.0	370.0	425.0
87D0447		277.0	319.0	332.0	410.0
87D0460	DNB				
87D0461		286.0	320.0	343.0	409.0
87D0465	DNB				
87D0470x	NP				
87D0472		280.0	324.0	341.0	419.0
87D0479		281.0	303.0	334.0	423.0
87D0484		242.0	275.0	307.0	380.0
87D0496		329.0	358.0	382.0	448.0
87D0498		312.0	356.0	369.0	470.0
87D0507		326.0	368.0	379.0	432.0
87D0509		323.0	369.0	380.0	473.0
87D0512		330.0	362.0	384.0	462.0
87D0520		295.0	323.0	358.0	433.0
87D0523		259.0	275.0	304.0	381.0
87D0525		293.0	319.0	339.0	448.0
87D0535x	NP				
87D0541x	NP				
87D0542		281.0	302.0	324.0	403.0
87D0545		310.0	338.0	355.0	449.0
87D0546		286.0	317.0	344.0	395.0
87D0548x	NP				
87D0550		275.0	289.0	305.0	395.0
87D0551		308.0	345.0	363.0	447.0
MEAN		288.23	318.15	341.65	417.56
S.D.		25.88	29.26	26.64	32.82
N		26	26	26	25
NP=NOT PREGNANT DNB=DID NOT BREED X=EXCLUDED FROM MEAN					

87012P
 APPENDIX E-3 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

LOW DOSE GRP 2 1.3 PPT

FEMALE#	DAY OF GESTATION			
	0	7	14	21
8700412x NP				
8700424 NP	211.0	234.0	266.0	333.0
8700433x NP				
8700438 APD	298.0	328.0	338.0	369.0
8700441x NP				
8700448	302.0	319.0	331.0	424.0
8700449	296.0	323.0	356.0	441.0
8700452	284.0	318.0	328.0	378.0
8700454x NP				
8700457 APD	265.0	305.0	335.0	385.0
8700462 APD	271.0	285.0	300.0	331.0
8700463	268.0	287.0	307.0	376.0
8700464	249.0	269.0	299.0	371.0
8700468x NP				
8700473	299.0	336.0	346.0	400.0
8700475	264.0	281.0	313.0	374.0
8700476	304.0	329.0	361.0	450.0
8700487 DNB				
8700488	359.0	367.0	413.0	489.0
8700491x NP				
8700492 DNB				
8700495	338.0	361.0	395.0	459.0
8700499	294.0	328.0	350.0	430.0
8700501	258.0	278.0	296.0	326.0
8700502	281.0	310.0	334.0	408.0
8700518	307.0	331.0	351.0	447.0
8700519 APD	290.0	301.0	308.0	331.0
8700522	288.0	316.0	336.0	411.0
8700529 APD	274.0	300.0	310.0	369.0
8700531	231.0	264.0	282.0	359.0
8700533	299.0	316.0	334.0	398.0
8700534	258.0	282.0	296.0	382.0
8700536	302.0	334.0	355.0	417.0
8700544 APD	274.0	305.0	322.0	347.0
8700549	302.0	336.0	375.0	463.0
MEAN	283.93	309.00	331.00	395.11
S.D.	30.06	29.87	33.38	44.76
N	27	27	27	27

NP=NOT PREGNANT DNB=DID NOT BREED APD=ALL PUPS DIED BY DAY 21PP X=EXCLUDED FROM MEAN

87012P

APPENDIX E-3 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

MID DOSE GRP 3 4 PPT					DAY OF GESTATION						
FEMALE#					0	7	14	21			
8700415x	NP	305.0	322.0	343.0	427.0						
8700417		255.0	282.0	321.0	397.0						
8700420	APD	201.0	228.0	241.0	272.0						
8700427		278.0	304.0	328.0	429.0						
8700432		273.0	293.0	323.0	405.0						
8700435		295.0	327.0	344.0	413.0						
8700436x	NP										
8700443		271.0	301.0	336.0	385.0						
8700444x	NP										
8700453x	NP										
8700455x	NP										
8700456		257.0	284.0	305.0	367.0						
8700459		279.0	301.0	308.0	351.0						
8700466		293.0	324.0	360.0	433.0						
8700469		304.0	348.0	372.0	445.0						
8700471		253.0	284.0	314.0	378.0						
8700478		271.0	298.0	325.0	402.0						
8700480		293.0	333.0	356.0	394.0						
8700486x	NP										
8700489x	NP										
8700490		305.0	328.0	349.0	420.0						
8700493x	NP										
8700494		269.0	295.0	313.0	392.0						
8700508		278.0	306.0	323.0	366.0						
8700511		256.0	280.0	294.0	368.0						
8700515		310.0	344.0	370.0	468.0						
8700516	APD	251.0	292.0	316.0	405.0						
8700524x	NP										
8700526		242.0	260.0	277.0	340.0						
8700527		344.0	356.0	386.0	455.0						
8700537		275.0	308.0	332.0	432.0						
8700543		294.0	314.0	335.0	408.0						
MEAN		277.17	304.67	327.96	398.00						
S.D.		28.54	28.74	31.52	41.92						
N		24	24	24	24						
NP=NOT PREGNANT					APD=ALL PUPS DIED BY DAY 21PP					X=EXCLUDED FROM MEAN	

87012P

APPENDIX E-3 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

FEMALE#	HIGH DOSE GRP 4 12.7 PPT			
	DAY OF GESTATION			
	0	7	14	21
8700414	334.0	336.0	375.0	
8700416x NP				
8700418 DNB				
8700419x NP				
8700423x NP				
8700426	225.0	247.0	270.0	342.0
8700429	239.0	275.0	301.0	385.0
8700434	250.0	285.0	299.0	340.0
8700439 NOPU				
8700450	235.0	274.0	287.0	358.0
8700451x NP				
8700458x NP				
8700467	255.0	272.0	306.0	382.0
8700477	253.0	286.0	315.0	385.0
8700481x NP				
8700482x NP				
8700485x NP				
8700497x NP				
8700500	240.0	266.0	289.0	333.0
8700503	280.0	293.0	317.0	379.0
8700504	245.0	272.0	296.0	368.0
8700505	289.0	318.0	347.0	431.0
8700506	307.0	336.0	355.0	435.0
8700510	305.0	346.0	357.0	407.0
8700513	282.0	301.0	327.0	414.0
8700514x NP				
8700517	263.0	288.0	310.0	381.0
8700521 NOPU				
8700528	266.0	284.0	304.0	376.0
8700530x NP				
8700532x NP				
8700538	254.0	287.0	309.0	397.0
8700539	267.0	296.0	319.0	379.0
8700540	295.0	315.0	331.0	414.0
MEAN	267.58	293.53	316.53	383.67
S.D.	28.66	26.19	26.80	29.37
N	19	19	19	18

NP=NOT PREGNANT DNB=DID NOT BREED NOPU=PREGNANT, NO PUPS DELIVERED X=EXCLUDED FROM MEAN

8701298

APPENDIX E-4
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION; BRED, DID NOT DELIVER
 INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

CONTROL GRP 1 0 PPT

FEMALE#	DAY OF GESTATION		
	0	7	14 21
8700413	249.0	264.0	257.0 254.0
8700440	290.0	319.0	326.0 315.0
8700470	258.0	286.0	291.0 294.0
8700535	300.0	331.0	347.0 334.0
8700541	243.0	277.0	284.0 271.0
8700548	300.0	302.0	303.0 317.0
MEAN	273.33	296.50	301.33 297.50
S.D.	26.26	25.59	31.84 30.42
N	6	6	6 6

87012P8

APPENDIX E-4 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION; BRED, DID NOT DELIVER
 INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

LOW DOSE GRP 2 1.3 PPT

FEMALE#	DAY OF GESTATION			
	0	7	14	21
8700412	299.0	315.0	310.0	314.0
8700433	269.0	305.0	310.0	329.0
8700441	287.0	311.0	318.0	305.0
8700454	280.0	311.0	322.0	332.0
8700468	250.0	271.0	281.0	302.0
8700491	351.0	372.0	389.0	404.0
MEAN	289.33	314.17	321.67	331.00
S.D.	34.49	32.60	35.98	37.79
N	6	6	6	6

87012PB

APPENDIX E-4 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION; BRED, DID NOT DELIVER
 INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

MID DOSE GRP 3 4 PPT

FEMALE#	DAY OF GESTATION		
	0	7	14 21
8700415	225.0	266.0	270.0 268.0
8700436	262.0	286.0	306.0 299.0
8700444	243.0	264.0	280.0 267.0
8700453	275.0	271.0	282.0 280.0
8700455	293.0	349.0	355.0 348.0
8700486	290.0	329.0	326.0 354.0
8700489	361.0	411.0	406.0 401.0
8700493	224.0	256.0	254.0 256.0
8700524	224.0	256.0	305.0 301.0
MEAN	266.33	298.67	309.33 308.22
S.D.	44.95	53.51	47.37 49.07
N	9	9	9 9

87012PB

APPENDIX E-4 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION; BRED, DID NOT DELIVER
 INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

HIGH DOSE GRP 4 12.7 PPT

FEMALE#	DAY OF GESTATION			14	21
	0	7			
8700416	291.0	300.0	308.0	304.0	
8700419	247.0	287.0	287.0	276.0	
8700423	234.0	247.0	255.0	253.0	
8700439	285.0	311.0	329.0	332.0	
8700451	261.0	283.0	293.0	279.0	
8700458	271.0	305.0	324.0	322.0	
8700481	304.0	328.0	343.0	347.0	
8700482	290.0	308.0	312.0	285.0	
8700485	294.0	313.0	332.0	317.0	
8700497	272.0	302.0	319.0	301.0	
8700514	267.0	275.0	275.0	285.0	
8700521	269.0	313.0	320.0	369.0	
8700530	231.0	264.0	254.0	255.0	
8700532	337.0	339.0	349.0	347.0	
MEAN	275.21	296.79	307.14	305.14	
S.D.	28.21	26.05	30.29	35.44	
N	14	14	14	14	

87012P

APPENDIX E-5
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
INDIVIDUAL MATERNAL POSTPARTUM BODY WEIGHTS (GRAMS)

CONTROL GRP 1 0 PPT

FEMALE#	DAY POSTPARTUM			
	0	7	14	21
8700413x NP				
8700421	291.0	296.0	301.0	264.0
8700425	298.0	314.0	298.0	293.0
8700430	268.0	289.0	285.0	280.0
8700431	324.0	344.0	355.0	325.0
8700437	312.0	323.0	325.0	313.0
8700440x NP				
8700442	297.0	305.0	313.0	310.0
8700445	278.0	263.0	295.0	282.0
8700446	332.0	330.0	351.0	355.0
8700447	308.0	307.0	303.0	302.0
8700460 DNB				
8700461	345.0	324.0	324.0	325.0
8700465 DNB				
8700470x NP				
8700472	309.0	317.0	330.0	316.0
8700479	314.0	309.0		307.0
8700484	285.0	274.0	287.0	282.0
8700496	380.0	371.0	378.0	359.0
8700498	341.0	364.0	361.0	336.0
8700507	369.0	365.0	375.0	353.0
8700509	365.0	365.0	359.0	342.0
8700512	358.0	371.0	373.0	346.0
8700520	311.0	321.0	349.0	333.0
8700523	279.0	286.0	289.0	281.0
8700525	323.0	313.0	294.0	306.0
8700535x NP				
8700541x NP				
8700542	317.0	300.0	313.0	293.0
8700545	340.0	332.0	326.0	305.0
8700546	341.0	321.0	330.0	317.0
8700548x NP				
8700550	285.0	267.0	320.0	289.0
8700551	330.0	324.0	338.0	323.0
MEAN	319.23	319.04	326.88	312.96
S.D.	30.03	30.92	29.33	25.96
N	26	26	25	26

NP=NOT PREGNANT DNB=DID NOT BREED X=EXCLUDED FROM MEAN

87012P

APPENDIX E-5 CONT.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
INDIVIDUAL MATERNAL POSTPARTUM BODY WEIGHTS (GRAMS)

LOW DOSE GRP 2 1,3 PPT

FEMALE#	DAY POSTPARTUM			
	0	7	14	21
8700412x NP		248.0	256.0	265.0 244.0
8700424				
8700433x NP				
8700438 APD		343.0		
8700441x NP				
8700448		309.0	332.0	331.0
8700449		311.0	332.0	324.0
8700452		325.0	301.0	314.0
8700454x NP				
8700457 APD		291.0		
8700462 APD		286.0		
8700463		309.0	296.0	280.0
8700464		278.0	286.0	284.0
8700468x NP				
8700473		320.0	317.0	316.0
8700475		304.0	308.0	294.0
8700476		336.0	329.0	323.0
8700487 DNB				
8700488		388.0	376.0	381.0 355.0
8700491x NP				
8700492 DNB				
8700495		370.0	373.0	360.0 346.0
8700499		312.0	318.0	344.0 320.0
8700501		295.0	275.0	266.0 275.0
8700502		291.0	308.0	322.0 318.0
8700518		311.0	336.0	349.0 306.0
8700519 APD		311.0		
8700522		302.0	313.0	314.0 307.0
8700529 APD		300.0		
8700531		267.0	263.0	262.0 269.0
8700533		310.0	315.0	329.0 327.0
8700534		251.0	278.0	292.0 277.0
8700536		327.0	314.0	313.0 294.0
8700544 APD		307.0	315.0	329.0
8700549		360.0	339.0	340.0 320.0
MEAN	309.70	311.18	317.57	305.90
S.D.	31.93	30.26	31.26	27.24
N	27	22	21	21

NP=NOT PREGNANT DNB=DID NOT BREED APD=ALL PUPS DIED BY DAY 21pp X=EXCLUDED FROM MEAN

87012P

APPENDIX E-5 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 INDIVIDUAL MATERNAL POSTPARTUM BODY WEIGHTS (GRAMS)

MID DOSE GRP 3 4 PPT	FEMALE#	DAY POSTPARTUM			
		0	7	14	21
	8700415x NP				
	8700417	316.0	291.0	311.0	301.0
	8700420	292.0	285.0	285.0	286.0
	8700422 APD	230.0			
	8700427	307.0	317.0	307.0	291.0
	8700432	293.0	293.0	291.0	290.0
	8700435	326.0	315.0	309.0	291.0
	8700436x NP				
	8700443	314.0	313.0	312.0	307.0
	8700444x NP				
	8700453x NP				
	8700455x NP				
	8700456	287.0	276.0	279.0	287.0
	8700459	306.0	316.0	312.0	309.0
	8700466	333.0	324.0	332.0	313.0
	8700469	338.0	335.0	336.0	327.0
	8700471	294.0	290.0	287.0	282.0
	8700478	298.0	308.0	313.0	317.0
	8700480	333.0	337.0	339.0	314.0
	8700486x NP				
	8700489x NP				
	8700490	325.0	327.0	334.0	320.0
	8700493x NP				
	8700494	291.0	294.0	302.0	281.0
	8700508	315.0	309.0	304.0	304.0
	8700511	270.0	278.0	282.0	287.0
	8700515	352.0	345.0	343.0	312.0
	8700516 APD	294.0			
	8700524x NP				
	8700526	255.0	275.0	289.0	245.0
	8700527	358.0	373.0	374.0	364.0
	8700537	312.0	328.0	328.0	323.0
	8700543	307.0	320.0	328.0	313.0
	8700547	296.0	303.0	318.0	304.0
	MEAN	305.68	310.96	313.70	302.96
	S.D.	28.45	24.26	23.34	22.55
	N	25	23	23	23

NP=NOT PREGNANT APD=ALL PUPS DIED BY DAY 21pp X=EXCLUDED FROM MEAN

87012P

APPENDIX E-5 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 INDIVIDUAL MATERNAL POSTPARTUM BODY WEIGHTS (GRAMS)

FEMALE#	HIGH DOSE GRP 4 12.7 PPT			
	DAY POSTPARTUM			
	0	7	14	21
8700414	348.0	309.0	327.0	339.0
8700416x NP				
8700418 DNB				
8700419x NP				
8700423x NP				
8700426	252.0	252.0	261.0	256.0
8700429	288.0	294.0	270.0	276.0
8700434	284.0	302.0	300.0	302.0
8700439 NOPU				
8700450	270.0	275.0	277.0	289.0
8700451x NP				
8700458x NP				
8700467	276.0	278.0	299.0	300.0
8700477	282.0	279.0		285.0
8700481x NP				
8700482x NP				
8700485x NP				
8700497x NP				
8700500	276.0	283.0	291.0	268.0
8700503	267.0	281.0	292.0	280.0
8700504	266.0	255.0	262.0	267.0
8700505	321.0	334.0	315.0	319.0
8700506	354.0	336.0	336.0	316.0
8700510	349.0	354.0	353.0	342.0
8700513	312.0	294.0	312.0	294.0
8700514x NP				
8700517	288.0	290.0	291.0	293.0
8700521 NOPU				
8700528	284.0	392.0	293.0	284.0
8700530x NP				
8700532x NP				
8700538	296.0	280.0	301.0	295.0
8700539	292.0	295.0	313.0	294.0
8700540	321.0	299.0	303.0	314.0
MEAN	296.11	299.05	299.78	295.42
S.D.	29.97	34.18	24.32	22.95
N	19	19	18	19

NP=NOT PREGNANT DNB=DID NOT BREED NOPU=PREGNANT, NO PUPS DELIVERED X=EXCLUDED FROM MEAN

87012F1

APPENDIX E-6
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
BODY WEIGHTS (GRAMS)

MALES		CONTROL	GRP 1	0 PPT		POST-WEIGHTS (GRAMS)														
WEEK OF STUDY						0														
0						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ANIMAL#																				
8700801	70.0	106.0	156.0	211.0	258.0	305.0	347.0	380.0	401.0	430.0	443.0	471.0	480.0	492.0	495.0	513.0				
8700809	54.0	94.0	145.0	204.0	254.0	309.0	363.0	390.0	421.0	443.0	465.0	485.0	507.0	520.0	532.0	546.0				
8700813	64.0	115.0	180.0	245.0	304.0	370.0	418.0	453.0	479.0	503.0	528.0	541.0	558.0	572.0	581.0	592.0				
8700821	52.0	95.0	152.0	203.0	262.0	320.0	360.0	393.0	426.0	453.0	470.0	497.0	510.0	536.0	539.0	555.0				
8700829		89.0	144.0	205.0	267.0	337.0	384.0	422.0	448.0	473.0	501.0	529.0	546.0	558.0	574.0	575.0				
8700831		78.0	127.0	187.0	265.0	308.0	364.0	400.0	433.0	469.0	488.0	519.0	534.0	553.0	561.0	576.0				
8700837		79.0	130.0	189.0	241.0	300.0	338.0	377.0	408.0	434.0	443.0	468.0	482.0	507.0	523.0	536.0				
8700841		82.0	140.0	203.0	270.0	336.0	385.0	421.0	457.0	492.0	515.0	537.0	558.0	573.0	583.0	600.0				
8700847		70.0	123.0	181.0	238.0	296.0	345.0	378.0	416.0	448.0	473.0	504.0	516.0	535.0	549.0	562.0				
8700857		63.0	113.0	170.0	232.0	294.0	348.0	391.0	424.0	456.0	482.0	500.0	518.0	538.0	558.0	560.0				
8700861		59.0	105.0	165.0	224.0	295.0	352.0	397.0	429.0	462.0	484.0	502.0	523.0	537.0	557.0	568.0				
8700871		45.0	78.0	132.0	190.0	248.0	308.0	356.0	389.0	427.0	458.0	485.0	509.0	538.0	561.0	576.0				
8700875		54.0	86.0	149.0	215.0	283.0	345.0	393.0	434.0	479.0	500.0	536.0	554.0	577.0	592.0	607.0				
8700877		60.0	96.0	163.0	232.0	305.0	375.0	425.0	468.0	515.0	531.0	571.0	600.0	623.0	640.0	660.0				
8700879		42.0	74.0	145.0	213.0	284.0	350.0	399.0	442.0	478.0	500.0	532.0	554.0	578.0	593.0	606.0				
8700915		62.0	112.0	171.0	237.0	295.0	344.0	385.0	431.0	461.0	499.0	507.0	541.0	565.0	591.0					
8700921		70.0	115.0	167.0	228.0	281.0	332.0	377.0	420.0	454.0	483.0	505.0	535.0	552.0	576.0					
8700935		59.0	110.0	173.0	234.0	294.0	341.0	386.0	430.0	469.0	493.0	524.0	544.0	559.0	583.0	602.0				
8700937		73.0	133.0	203.0	270.0	337.0	387.0	432.0	479.0	501.0	525.0	549.0	572.0	590.0	607.0					
8700939		58.0	103.0	158.0	226.0	282.0	325.0	366.0	401.0	425.0	449.0	472.0	490.0	513.0	537.0	559.0				
8700949		43.0	88.0	139.0	203.0	265.0	319.0	368.0	413.0	449.0	487.0	514.0	537.0	570.0	588.0					
8700951		32.0	72.0	120.0	179.0	237.0	296.0	340.0	378.0	418.0	442.0	465.0	492.0	506.0	530.0					
8700955			81.0	140.0	210.0	279.0	336.0	387.0	424.0	468.0	499.0	524.0	547.0	568.0	583.0					
8700969			71.0	121.0	191.0	259.0	324.0	375.0	426.0	468.0	499.0	524.0	547.0	568.0	583.0					
8700971			65.0	121.0	191.0	259.0	324.0	375.0	426.0	468.0	499.0	524.0	547.0	568.0	583.0					
8700977				65.0	121.0	191.0	259.0	324.0	375.0	426.0	468.0	499.0	524.0	547.0	568.0	583.0				
					88.0	145.0	214.0	272.0	332.0	381.0	430.0	458.0	487.0	510.0	532.0	553.0				
MEAN	60.00	75.40	102.09	155.04	202.88	257.58	309.81	358.92	398.77	436.12	463.27	493.04	513.50	535.77	552.92	570.23				
S.D.	8.49	21.83	41.30	47.75	62.45	71.95	73.74	60.88	52.93	47.05	40.95	37.74	36.21	33.68	33.50	31.54				
N.	4	15	22	23	25	26	26	26	26	26	26	26	26	26	26	26				

87012F1

APPENDIX E-6 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
BODY WEIGHTS (GRAMS)

MALES	CONTROL	GRP 1	0 PPT	WEEK OF STUDY		
				WEEK OF STUDY		
				16	17	18
ANIMAL#						
8700801		520.0	512.0	507.0		
8700809		560.0	546.0	565.0		
8700813		614.0	591.0	606.0		
8700821		569.0	569.0	581.0		
8700829		591.0	608.0	607.0		
8700831		590.0	602.0	602.0		
8700837		551.0	544.0	551.0		
8700841		614.0	624.0	633.0		
8700847		576.0	581.0	577.0		
8700857		575.0	588.0	586.0		
8700861		583.0	592.0	605.0		
8700871		589.0	605.0	608.0		
8700875		628.0	630.0	607.0		
8700877		683.0	693.0	683.0		
8700879		622.0	631.0	621.0		
8700915		603.0	606.0	621.0		
8700921		597.0	595.0	601.0		
8700935		568.0	578.0	586.0		
8700937		628.0	628.0	643.0		
8700939		554.0	561.0	577.0		
8700949		612.0	618.0	624.0		
8700951		544.0	555.0	550.0		
8700955		603.0	615.0	615.0		
8700969		555.0	571.0	552.0		
8700971		554.0	553.0	545.0		
8700977		579.0	589.0	583.0		
MEAN		587.00	591.73	593.69		
S.D.		34.13	36.55	36.28		
N		26	26	26		

87012F1
 APPENDIX E-6 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 BODY WEIGHTS (GRAMS)

MALES	LOW DOSE	GRP 2	1.3 PPT	WEEK OF STUDY		
				16	17	18
ANIMAL#						
8700807	531.0	525.0	546.0			
8700827	714.0	702.0	705.0			
8700843	583.6	593.0	602.0			
8700853	614.0	617.0	609.0			
8700863	673.0	684.0	668.0			
8700865	552.0	560.0	556.0			
8700885	580.0	587.0	583.0			
8700891	498.0	518.0	516.0			
8700899	551.0	549.0	563.0			
8700901	606.0	616.0	628.0			
8700903	548.0	547.0	562.0			
8700907	597.0	609.0	595.0			
8700913	496.0	506.0	509.0			
8700925	482.0	490.0	490.0			
8700927	506.0	501.0	513.0			
8700941	598.0	588.0				
8700945	521.0	529.0	540.0			
8700947	604.0	615.0	621.0			
8700957	630.0	646.0	629.0			
8700959	568.0	565.0	572.0			
8700963	568.0	575.0	565.0			
MEAN	572.38	577.24	578.60			
S.D.	58.56	57.83	54.89			
N	21	21	20			

87012F1

APPENDIX E-6 CONT.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
BODY WEIGHTS (GRAMS)

MALES	MID DOSE	GRP 3	4	PPT	WEEK OF STUDY															
					0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ANIMAL#																				
8700803	59.0	100.0	155.0	203.0	254.0	308.0	350.0	387.0	408.0	439.0	456.0	480.0	490.0	509.0	514.0	531.0				
8700805	53.0	88.0	127.0	180.0	227.0	275.0	313.0	344.0	371.0	397.0	410.0	433.0	447.0	463.0	475.0	489.0				
8700811	64.0	107.0	166.0	220.0	274.0	327.0	370.0	395.0	422.0	447.0	464.0	486.0	490.0	504.0	515.0	530.0				
8700817	67.0	108.0	172.0	234.0	298.0	369.0	426.0	463.0	495.0	524.0	558.0	588.0	609.0	625.0	640.0	656.0				
8700825	51.0	89.0	137.0	193.0	253.0	313.0	366.0	336.0	400.0	445.0	468.0	495.0	510.0	527.0	544.0	561.0				
8700835		83.0	136.0	195.0	255.0	313.0	364.0	411.0	440.0	465.0	497.0	529.0	552.0	573.0	591.0	608.0				
8700839		84.0	143.0	205.0	271.0	336.0	386.0	417.0	454.0	483.0	503.0	532.0	541.0	563.0	573.0	591.0				
8700845		78.0	130.0	188.0	252.0	309.0	355.0	385.0	432.0	456.0	491.0	515.0	529.0	549.0	568.0	575.0				
8700849		74.0	117.0	172.0	235.0	290.0	342.0	389.0	426.0	458.0	483.0	512.0	530.0	556.0	573.0	587.0				
8700859		57.0	98.0	155.0	214.0	275.0	327.0	368.0	401.0	428.0	447.0	467.0	482.0	496.0	512.0	523.0				
8700869		54.0	96.0	155.0	215.0	286.0	352.0	399.0	438.0	471.0	493.0	523.0	539.0	562.0	584.0	601.0				
8700881			73.0	125.0	182.0	241.0	294.0	332.0	362.0	401.0	425.0	451.0	465.0	483.0	493.0	508.0				
8700887			63.0	117.0	176.0	232.0	283.0	331.0	363.0	400.0	427.0	447.0	472.0	486.0	508.0	521.0				
8700889			70.0	130.0	198.0	268.0	337.0	386.0	430.0	462.0	490.0	523.0	544.0	562.0	582.0	605.0				
8700905			56.0	99.0	157.0	217.0	280.0	318.0	367.0	413.0	442.0	479.0	502.0	503.0	542.0	564.0				
8700909			66.0	110.0	169.0	229.0	288.0	336.0	374.0	419.0	443.0	473.0	484.0	510.0	521.0	549.0				
8700917			63.0	106.0	158.0	216.0	269.0	315.0	355.0	391.0	409.0	430.0	448.0	465.0	479.0	491.0				
8700919			69.0	113.0	174.0	243.0	301.0	351.0	390.0	425.0	448.0	482.0	500.0	500.0	533.0	550.0				
8700929			60.0	105.0	158.0	226.0	281.0	331.0	371.0	425.0	455.0	483.0	505.0	532.0	555.0	573.0				
8700943			51.0	97.0	153.0	212.0	266.0	313.0	350.0	391.0	419.0	446.0	457.0	475.0	493.0	509.0				
8700965					79.0	134.0	205.0	266.0	326.0	385.0	424.0	464.0	492.0	528.0	543.0	572.0				
8700967					84.0	140.0	209.0	267.0	329.0	387.0	431.0	471.0	499.0	521.0	549.0	567.0				
8700973					51.0	87.0	139.0	194.0	246.0	308.0	352.0	386.0	410.0	434.0	453.0	581.0				
MEAN	58.80	83.82	102.40	155.10	195.09	254.17	306.13	349.30	389.13	429.57	453.70	482.30	499.87	521.78	536.52	558.35				
S.D.	6.87	17.80	40.60	45.00	65.30	68.63	67.73	58.19	52.46	44.07	42.28	42.74	42.59	44.78	44.09	41.48				
N	5	11	20	20	23	23	23	23	23	23	23	23	23	23	23	23				

87012F1

APPENDIX E-6 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
BODY WEIGHTS (GRAMS)

MALES	MID DOSE	GRP 3	4 PPT	WEEK OF STUDY		
				16	17	18
				ANIMAL#		
8700803	548.0	547.0	553.0			
8700805	503.0	503.0	514.0			
8700811	540.0	524.0	540.0			
8700817	673.0	665.0	689.0			
8700825	572.0	568.0	588.0			
8700835	622.0	625.0	632.0			
8700839	605.0	612.0	632.0			
8700845	593.0	603.0	597.0			
8700849	606.0	612.0	600.0			
8700859	531.0	534.0	534.0			
8700869	620.0	627.0	609.0			
8700881	517.0	522.0	526.0			
8700887	522.0	524.0	530.0			
8700889	622.0	618.0	622.0			
8700905	578.0	586.0	587.0			
8700909	559.0	528.0	574.0			
8700917	497.0	499.0	507.0			
8700919	561.0	571.0	585.0			
8700929	581.0	593.0	606.0			
8700943	520.0	521.0	530.0			
8700965	584.0	601.0	595.0			
8700967	595.0	594.0	589.0			
8700973	502.0	507.0	511.0			
MEAN	567.43	568.87	576.09			
S.D.	46.51	47.93	46.80			
N	23	23	23			

87012F1

APPENDIX E-6 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
BODY WEIGHTS (GRAMS)

MALES	HIGH DOSE GRP 4 12.7 PPT	WEEK OF STUDY															
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ANIMAL#																	
8700815	39.0	74.0	125.0	182.0	231.0	279.0	332.0	353.0	375.0	401.0	427.0	439.0	458.0	473.0	481.0	496.0	
8700819	45.0	82.0	132.0	184.0	237.0	292.0	333.0	361.0	382.0	413.0	429.0	453.0	471.0	483.0	494.0	510.0	
8700823	68.0	110.0	163.0	233.0	287.0	346.0	390.0	421.0	450.0	474.0	489.0	509.0	529.0	541.0	554.0	564.0	
8700833		72.0	119.0	170.0	227.0	273.0	318.0	354.0	387.0	415.0	434.0	457.0	471.0	492.0	507.0	522.0	
8700851		71.0	124.0	179.0	242.0	305.0	367.0	410.0	443.0	472.0	499.0	520.0	538.0	555.0	570.0	588.0	
8700855		77.0	127.0	183.0	238.0	294.0	338.0	380.0	411.0	430.0	452.0	464.0	481.0	491.0	508.0	513.0	
8700867		63.0	105.0	160.0	204.0	266.0	318.0	354.0	396.0	428.0	449.0	478.0	494.0	517.0	528.0	537.0	
8700873		49.0	73.0	132.0	185.0	248.0	293.0	336.0	375.0	402.0	426.0	451.0	475.0	488.0	512.0	529.0	
8700883			56.0	108.0	163.0	224.0	276.0	325.0	362.0	399.0	425.0	451.0	470.0	484.0	503.0	522.0	
8700893			55.0	113.0	178.0	242.0	306.0	353.0	393.0	433.0	454.0	476.0	506.0	521.0	544.0	560.0	
8700895			42.0	91.0	147.0	215.0	274.0	322.0	356.0	402.0	425.0	460.0	480.0	496.0	506.0	519.0	
8700897			70.0	118.0	173.0	234.0	288.0	334.0	368.0	406.0	429.0	464.0	478.0	493.0	509.0	523.0	
8700911			54.0	88.0	134.0	190.0	248.0	301.0	345.0	379.0	406.0	426.0	455.0	482.0	507.0	525.0	
8700923			59.0	110.0	168.0	235.0	296.0	346.0	388.0	429.0	455.0	481.0	498.0	517.0	533.0	554.0	
8700931			59.0	96.0	146.0	207.0	272.0	333.0	387.0	433.0	466.0	490.0	524.0	551.0	570.0	598.0	
8700933			59.0	101.0	151.0	206.0	263.0	309.0	350.0	387.0	411.0	441.0	459.0	483.0	502.0	521.0	
8700953				72.0	124.0	180.0	236.0	289.0	336.0	376.0	411.0	443.0	468.0	488.0	507.0	528.0	
8700961				47.0	64.0	104.0	157.0	206.0	348.0	289.0	311.0	337.0	358.0	382.0	397.0	421.0	
8700975					47.0	82.0	136.0	196.0	250.0	308.0	355.0	395.0	424.0	451.0	479.0	501.0	
MEAN	50.67	74.75	88.88	131.50	176.11	232.74	286.37	330.68	373.79	404.00	429.11	454.47	475.63	494.11	511.11	527.95	
S.D.	15.31	17.42	37.81	48.96	61.01	65.06	62.83	56.29	42.67	45.63	42.65	40.27	39.82	38.28	38.09	37.69	
N	3	8	16	18	19	19	19	19	19	19	19	19	19	19	19	19	

87012F1

APPENDIX E-6 cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE

F1 GENERATION

BODY WEIGHTS (GRAMS)

MALES	HIGH DOSE GRP 4 12.7 PPT	WEEK OF STUDY		
		16	17	18
ANIMAL#				
8700815		503.0	498.0	494.0
8700819		516.0	510.0	532.0
8700823		583.0	572.0	594.0
8700833		541.0	551.0	532.0
8700851		598.0	584.0	599.0
8700855		523.0	529.0	530.0
8700867		547.0	558.0	564.0
8700873		546.0	548.0	561.0
8700883		526.0	539.0	531.0
8700893		570.0	579.0	586.0
8700895		528.0	520.0	544.0
8700897		539.0	544.0	544.0
8700911		533.0	545.0	557.0
8700923		568.0	573.0	578.0
8700931		610.0	610.0	613.0
8700933		537.0	536.0	541.0
8700953		550.0	564.0	568.0
8700961		431.0	444.0	441.0
8700975		524.0	543.0	533.0
MEAN		540.68	544.58	549.58
S.D.		38.55	36.23	39.40
N		19	19	19

87012F1

APPENDIX E-7 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE F1 GENERATION BODY WEIGHTS (GRAMS)

FEMALES CONTROL GRP 1 0 PPT																
ANIMAL#	WEEK OF STUDY															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
8700802	72.0	109.0	156.0	205.0	222.0	250.0	275.0	288.0	297.0	309.0	318.0	330.0	328.0	333.0	343.0	353.0
8700810	61.0	103.0	150.0	189.0	210.0	242.0	260.0	274.0	289.0	288.0	305.0	310.0	318.0	327.0	330.0	336.0
8700814	68.0	106.0	151.0	194.0	220.0	234.0	260.0	271.0	283.0	291.0	326.0	313.0	306.0	309.0	313.0	318.0
8700822	66.0	110.0	161.0	198.0	233.0	256.0	282.0	300.0	309.0	325.0	326.0	353.0	351.0	358.0	364.0	358.0
8700830	44.0	88.0	133.0	175.0	201.0	224.0	245.0	260.0	270.0	287.0	287.0	298.0	302.0	300.0	312.0	318.0
8700832	42.0	78.0	121.0	165.0	197.0	216.0	236.0	244.0	262.0	273.0	287.0	287.0	293.0	305.0	310.0	311.0
8700838		80.0	123.0	166.0	197.0	222.0	230.0	253.0	265.0	274.0	289.0	294.0	308.0	308.0	319.0	340.0
8700842		74.0	120.0	163.0	186.0	212.0	226.0	246.0	259.0	271.0	285.0	288.0	308.0	307.0	323.0	327.0
8700848		70.0	107.0	145.0	169.0	200.0	221.0	250.0	266.0	274.0	288.0	303.0	309.0	310.0	324.0	336.0
8700858		68.0	112.0	161.0	199.0	223.0	246.0	262.0	276.0	280.0	299.0	307.0	311.0	311.0	322.0	324.0
8700862		51.0	90.0	135.0	179.0	202.0	217.0	232.0	261.0	279.0	291.0	302.0	314.0	309.0	323.0	333.0
8700872		38.0	75.0	111.0	147.0	178.0	203.0	228.0	252.0	259.0	271.0	283.0	284.0	289.0	295.0	303.0
8700876		46.0	82.0	130.0	159.0	190.0	203.0	224.0	240.0	256.0	265.0	287.0	294.0	296.0	310.0	312.0
8700878		58.0	93.0	142.0	183.0	215.0	245.0	269.0	302.0	322.0	317.0	335.0	341.0	356.0	364.0	368.0
8700880		45.0	78.0	131.0	178.0	221.0	241.0	267.0	284.0	287.0	305.0	308.0	319.0	311.0	328.0	343.0
8700916		67.0	100.0	150.0	194.0	213.0	213.0	247.0	260.0	284.0	293.0	314.0	322.0	330.0	344.0	342.0
8700922		73.0	117.0	171.0	157.0	188.0	207.0	234.0	260.0	277.0	294.0	301.0	320.0	330.0	344.0	342.0
8700936		54.0	87.0	142.0	176.0	200.0	222.0	242.0	262.0	272.0	272.0	287.0	299.0	307.0	317.0	321.0
8700938		75.0	118.0	166.0	203.0	235.0	261.0	256.0	291.0	301.0	307.0	307.0	314.0	322.0	338.0	333.0
8700940		63.0	100.0	140.0	175.0	205.0	195.0	216.0	233.0	250.0	264.0	265.0	272.0	287.0	291.0	302.0
8700950		47.0	88.0	137.0	181.0	205.0	225.0	247.0	258.0	270.0	276.0	299.0	295.0	306.0	319.0	322.0
8700952		37.0	72.0	114.0	157.0	179.0	179.0	197.0	220.0	239.0	251.0	272.0	277.0	211.0	323.0	321.0
8700956				76.0	111.0	141.0	168.0	184.0	194.0	220.0	234.0	237.0	251.0	253.0	262.0	263.0
8700970					73.0	115.0	157.0	185.0	208.0	230.0	242.0	261.0	271.0	272.0	292.0	285.0
8700972					62.0	97.0	132.0	159.0	186.0	215.0	232.0	243.0	264.0	277.0	289.0	289.0
8700978					49.0	80.0	125.0	172.0	199.0	222.0	258.0	284.0	294.0	315.0	325.0	322.0
MEAN	58.83	74.93	98.55	138.13	160.81	192.15	215.62	237.31	254.62	270.12	282.54	294.92	300.58	305.35	320.15	323.88
S.D.	12.78	24.46	37.07	39.87	48.48	44.52	39.87	35.73	32.69	28.86	25.02	25.99	27.60	30.04	22.81	23.21
N	6	15	22	23	26	26	26	26	26	26	26	26	26	26	26	26

87012F1
 APPENDIX E-7 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 BODY WEIGHTS (GRAMS)

FEMALES	CONTROL	GRP 1	0 PPT	WEEK OF STUDY		
				16	17	18 19
ANIMAL#						
8700802				362.0		
8700810				334.0	339.0	336.0 341.0
8700814				315.0	317.0	
8700822				354.0		
8700830				323.0	324.0	327.0 331.0
8700832				316.0	318.0	
8700838				333.0	321.0	341.0 353.0
8700842				325.0		
8700848				336.0	344.0	
8700858				327.0	337.0	
8700862				334.0	342.0	
8700872				362.0	310.0	
8700876				306.0	323.0	
8700878				375.0	389.0	
8700880				344.0	352.0	
8700916				351.0	355.0	383.0 388.0
8700922				353.0	351.0	364.0 373.0
8700936				320.0	321.0	
8700938				337.0	340.0	
8700940				300.0	308.0	
8700950				325.0	330.0	334.0 341.0
8700952				336.0	352.0	342.0 358.0
8700956				273.0	285.0	
8700970				295.0	304.0	
8700972				297.0	299.0	
8700978				341.0	345.0	
MEAN				329.77	330.70	346.71 355.00
S.D.				23.46	22.77	19.73 19.97
N				26	23	7 7

APPENDIX E-7 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
BODY WEIGHTS (GRAMS)

FEMALES		LOW DOSE	GRP 2	1.3 PPT	WEEK OF STUDY															
					0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ANIMAL#																				
	44.0	75.0	114.0	153.0	175.0	200.0	219.0	236.0	252.0	241.0	261.0	294.0	277.0	277.0	284.0	289.0				
87D0808		94.0	142.0	190.0	217.0	246.0	265.0	284.0	306.0	315.0	328.0	351.0	348.0	354.0	357.0	370.0				
87D0828	55.0	69.0	110.0	158.0	189.0	216.0	238.0	257.0	267.0	286.0	289.0	304.0	310.0	306.0	319.0	321.0				
87D0844		77.0	119.0	153.0	188.0	211.0	232.0	263.0	298.0	284.0	300.0	313.0	314.0	331.0	331.0	345.0				
87D0854		55.0	83.0	132.0	187.0	198.0	218.0	246.0	266.0	290.0	295.0	302.0	306.0	320.0	318.0	323.0				
87D0866		52.0	77.0	125.0	164.0	192.0	216.0	224.0	243.0	248.0	269.0	281.0	281.0	292.0	297.0	309.0				
87D0866	42.0	66.0	108.0	155.0	184.0	216.0	241.0	264.0	286.0	288.0	311.0	315.0	328.0	335.0	333.0	339.0				
87D0886		67.0	100.0	134.0	149.0	177.0	177.0	188.0	213.0	228.0	237.0	256.0	256.0	269.0	277.0	279.0				
87D0892		75.0	121.0	164.0	195.0	212.0	212.0	219.0	243.0	260.0	261.0	278.0	286.0	288.0	301.0	303.0				
87D0900		67.0	105.0	154.0	182.0	195.0	211.0	216.0	233.0	245.0	261.0	271.0	296.0	289.0	305.0	323.0				
87D0902		75.0	121.0	168.0	198.0	211.0	211.0	227.0	237.0	260.0	268.0	280.0	284.0	286.0	304.0	299.0				
87D0908		74.0	109.0	150.0	179.0	202.0	202.0	212.0	215.0	231.0	208.0	255.0	262.0	285.0	288.0	300.0				
87D0914		62.0	99.0	137.0	160.0	181.0	181.0	200.0	215.0	233.0	241.0	249.0	256.0	266.0	269.0	282.0				
87D0926		54.0	85.0	112.0	139.0	157.0	157.0	179.0	195.0	203.0	215.0	219.0	225.0	230.0	243.0	249.0				
87D0926		49.0	82.0	122.0	168.0	188.0	188.0	215.0	239.0	258.0	268.0	277.0	289.0	292.0	299.0	307.0				
87D0942		57.0	90.0	128.0	161.0	183.0	183.0	213.0	226.0	242.0	246.0	265.0	261.0	270.0	278.0	279.0				
87D0948		57.0	89.0	131.0	175.0	199.0	199.0	226.0	246.0	255.0	273.0	282.0	295.0	296.0	323.0	326.0				
87D0958			83.0	133.0	189.0	214.0	214.0	240.0	268.0	287.0	304.0	309.0	328.0	336.0	348.0	351.0				
87D0960			65.0	106.0	150.0	179.0	179.0	208.0	234.0	255.0	268.0	280.0	289.0	294.0	311.0	316.0				
87D0964			42.0	79.0	123.0	163.0	163.0	193.0	221.0	242.0	259.0	279.0	283.0	294.0	304.0	308.0				
MEAN	49.50	66.29	79.29	110.50	148.70	180.75	203.25	224.35	244.05	257.45	266.95	282.80	288.05	295.15	304.55	310.60				
S.D.	7.78	17.74	26.30	34.96	32.36	28.88	26.31	26.10	28.11	26.88	29.29	28.32	28.25	28.35	27.48	28.03				
N	2	7	17	20	20	20	20	20	20	20	20	20	20	20	20	20				

87012f1

APPENDIX E-7 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
BODY WEIGHTS (GRAMS)

FEMALES	LOW DOSE	GRP 2	1.3 PPT	WEEK OF STUDY		
				16	17	18 19
ANIMAL#						
8700808				288.0	303.0	
8700828				368.0		
8700844				325.0	325.0	330.0 338.0
8700854				347.0		
8700864				327.0	317.0	
8700866				305.0	315.0	
8700886				344.0	340.0	363.0 349.0
8700892				286.0	295.0	
8700900				303.0	315.0	
8700902				321.0	308.0	
8700904				304.0	310.0	
8700908				292.0	296.0	
8700914				282.0	290.0	298.0 311.0
8700926				251.0	252.0	
8700928				305.0	316.0	308.0
8700942				286.0	286.0	
8700948				316.0	322.0	
8700958				357.0	362.0	
8700960				311.0	331.0	
8700964				318.0	321.0	
MEAN				311.80	311.33	324.75 332.67
S.D.				28.22	23.58	28.79 19.55
N				20	18	4 3

87012F1

APPENDIX E-7 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
BODY WEIGHTS (GRAMS)

FEMALES MID DOSE GRP 3 4 PPT															
ANIMAL#	WEEK OF STUDY				5	6	7	8	9	10	11	12	13	14	15
	0	1	2	3											
8700804	61.0	105.0	147.0	189.0	200.0	252.0	266.0	283.0	290.0	335.0	343.0	314.0	311.0	325.0	319.0
8700806	55.0	85.0	117.0	159.0	185.0	227.0	236.0	254.0	279.0	275.0	282.0	283.0	291.0	299.0	301.0
8700812	71.0	113.0	153.0	200.0	233.0	289.0	284.0	304.0	314.0	317.0	334.0	336.0	341.0	353.0	355.0
8700818	61.0	93.0	134.0	172.0	204.0	232.0	244.0	264.0	301.0	309.0	320.0	336.0	331.0	338.0	350.0
8700826	60.0	99.0	135.0	167.0	192.0	229.0	234.0	263.0	267.0	286.0	298.0	306.0	292.0	300.0	309.0
8700836	43.0	80.0	122.0	155.0	174.0	202.0	220.0	255.0	268.0	263.0	282.0	284.0	289.0	286.0	291.0
8700840		87.0	129.0	173.0	198.0	232.0	248.0	271.0	284.0	280.0	287.0	308.0	304.0	317.0	328.0
8700846		74.0	108.0	153.0	185.0	210.0	225.0	250.0	272.0	270.0	288.0	286.0	282.0	305.0	301.0
8700850		72.0	108.0	138.0	181.0	203.0	225.0	253.0	270.0	269.0	288.0	293.0	297.0	298.0	304.0
8700860		46.0	62.0	114.0	169.0	184.0	215.0	239.0	259.0	278.0	295.0	286.0	312.0	301.0	318.0
8700870		57.0	93.0	146.0	180.0	215.0	244.0	258.0	301.0	310.0	329.0	324.0	321.0	348.0	341.0
8700882		43.0	79.0	123.0	148.0	169.0	194.0	209.0	228.0	246.0	245.0	258.0	264.0	271.0	268.0
8700888			74.0	112.0	150.0	177.0	197.0	221.0	249.0	258.0	261.0	268.0	273.0	281.0	283.0
8700890			64.0	105.0	144.0	174.0	194.0	220.0	246.0	262.0	270.0	281.0	277.0	291.0	302.0
8700906			56.0	95.0	146.0	177.0	192.0	221.0	253.0	257.0	258.0	281.0	277.0	294.0	289.0
8700910			63.0	96.0	137.0	165.0	191.0	216.0	244.0	256.0	269.0	271.0	277.0	283.0	290.0
8700918			72.0	111.0	151.0	180.0	204.0	219.0	245.0	258.0	266.0	276.0	274.0	290.0	294.0
8700920			67.0	107.0	154.0	197.0	208.0	233.0	249.0	272.0	278.0	294.0	312.0	327.0	311.0
8700930			44.0	84.0	125.0	168.0	197.0	231.0	268.0	283.0	302.0	303.0	326.0	342.0	355.0
8700944			36.0	93.0	131.0	149.0	172.0	184.0	208.0	230.0	232.0	239.0	235.0	251.0	256.0
8700966					78.0	120.0	172.0	200.0	225.0	272.0	277.0	302.0	335.0	349.0	346.0
8700968					79.0	122.0	160.0	188.0	216.0	234.0	264.0	281.0	293.0	289.0	302.0
8700974					59.0	134.0	163.0	189.0	223.0	230.0	248.0	267.0	280.0	285.0	301.0
MEAN	58.50	79.50	94.15	134.60	156.65	186.17	209.43	239.17	247.52	262.74	272.65	285.09	292.17	295.78	309.30
S.D.	9.20	22.30	34.50	34.99	42.82	40.84	33.55	28.33	26.97	26.54	24.97	28.81	25.57	25.34	26.66
N	6	12	20	20	23	23	23	23	23	23	23	23	23	23	23

87012F1

APPENDIX E-7 cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE

F1 GENERATION

BODY WEIGHTS (GRAMS)

FEMALES	MID DOSE	GRP 3	4 PPT	WEEK OF STUDY			
				16	17	18	19
ANIMAL#							
8700804	338.0			345.0			
8700806	303.0			310.0		318.0	319.0
8700812	363.0			358.0			
8700818	355.0			362.0		366.0	385.0
8700826	307.0			312.0		330.0	
8700836	297.0			287.0			
8700840	319.0			328.0		327.0	344.0
8700846	309.0			302.0			
8700850	309.0			310.0		313.0	
8700860	326.0						
8700870	348.0			352.0		350.0	364.0
8700882	277.0			278.0			
8700888	285.0			297.0			
8700890	300.0			306.0			
8700906	298.0			309.0			
8700910	292.0			302.0		313.0	326.0
8700918	283.0			264.0			
8700920	322.0			325.0		330.0	
8700930	352.0			366.0		378.0	401.0
8700944	247.0			258.0		263.0	280.0
8700966	359.0			377.0			
8700968	301.0			315.0		334.0	329.0
8700974	298.0			317.0			
MEAN	312.52			317.27		329.27	343.50
S.D.	29.38			32.20		30.38	38.91
N	23			22		11	8

APPENDIX E-7 CONT.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
BODY WEIGHTS (GRAMS)

[illegible]

87012F1
 APPENDIX E-7 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 BODY WEIGHTS (GRAMS)

FEMALES	HIGH DOSE GRP 4	12.7 PPT	WEEK OF STUDY			
			16	17	18	19
ANIMAL#						
8700816			273.0			
8700820			280.0	273.0	285.0	
8700824			303.0	304.0		
8700834			287.0			
8700852			305.0	307.0		
8700856			293.0			
8700868			288.0	297.0		
8700874			336.0	341.0	342.0	353.0
8700884			283.0	288.0		
8700894			284.0	275.0	291.0	
8700896			289.0	300.0		
8700898			297.0	299.0		
8700912			345.0	355.0		
8700924			319.0	317.0	334.0	338.0
8700932			329.0	332.0		
8700934			320.0	314.0	326.0	343.0
8700954			296.0	315.0	311.0	
8700962			295.0	297.0	307.0	318.0
8700976			306.0	306.0	304.0	
MEAN			301.47	307.50	312.50	338.00
S.D.			19.94	21.84	20.14	14.72
N			19	16	8	4

87012F1

APPENDIX E-8
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

CONTROL GRP 1 0 PPT		DAY OF GESTATION			
		0	7	14	21
FEMALE#					
8700802x	NP				
8700810	DNB				
8700814		315.0	344.0	363.0	430.0
8700822		343.0	370.0	405.0	458.0
8700830		330.0	355.0	368.0	451.0
8700832x	NP				
8700838x	NP				
8700842x	NP				
8700848		333.0	355.0	386.0	472.0
8700858		329.0	352.0	385.0	468.0
8700862		332.0	351.0	382.0	458.0
8700872		294.0	324.0	359.0	404.0
8700876		301.0	332.0	370.0	436.0
8700878		375.0	422.0	449.0	518.0
8700880	APD	338.0	372.0	407.0	492.0
8700916x	NP				
8700922		376.0	404.0	427.0	479.0
8700936x	NP				
8700938x	NP				
8700940		292.0	332.0	363.0	431.0
8700950	DNB				
8700952		360.0	380.0	418.0	514.0
8700956		274.0	311.0	330.0	411.0
8700970		291.0	334.0	365.0	450.0
8700972		293.0	326.0	356.0	424.0
8700978	APD	325.0	358.0	392.0	469.0

NP=NOT PREGNANT DNB=DID NOT BREED APD=ALL PUPS DIED BY DAY 21PP X=EXCLUDED FROM MEAN

87012F1
 APPENDIX E-8 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

LOW DOSE	GRP 2	1.3 PPT	DAY OF GESTATION			
			0	7	14	21
FEMALE#						
8700808			297.0	307.0	340.0	422.0
8700828	APD		366.0	383.0	400.0	421.0
8700844			342.0	374.0	388.0	445.0
8700854			345.0	364.0	396.0	473.0
8700864			316.0	335.0	369.0	414.0
8700866			313.0	338.0	370.0	439.0
8700886			342.0	378.0	405.0	502.0
8700892			289.0	316.0	347.0	372.0
8700900	APD		309.0	332.0	351.0	396.0
8700902			306.0	340.0	372.0	455.0
8700904			303.0	329.0	357.0	439.0
8700908			283.0	313.0	342.0	393.0
8700914			318.0	340.0	361.0	438.0
8700926			244.0	273.0	295.0	361.0
8700928			308.0	339.0	367.0	407.0
8700942			291.0	308.0	348.0	387.0
8700948			316.0	345.0	372.0	463.0
8700958X	NP					
8700960			320.0	351.0	378.0	427.0
8700964			317.0	347.0	383.0	447.0
MEAN			311.84	337.47	365.32	426.37
S.D.			26.63	27.10	25.70	35.49
N			19	19	19	19

NP=NOT PREGNANT APD=ALL PUPS DIED BY DAY 21pp X=EXCLUDED FROM MEAN

87012F1

APPENDIX E-8 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

H1D DOSE GRP 3 4 PPT					
FEMALE#		DAY OF GESTATION			
		0	7	14	21
8700804		336.0	394.0	418.0	498.0
8700806	DNB				
8700812		355.0	388.0	408.0	489.0
8700818	DNB				
8700826		332.0	358.0	392.0	478.0
8700836		287.0	321.0	350.0	437.0
8700840		330.0	352.0	383.0	449.0
8700846		301.0	333.0	361.0	447.0
8700850x	NP				
8700860x	NP				
8700870	DNB				
8700882		275.0	309.0	335.0	402.0
8700888x	NP				
8700890		298.0	327.0	360.0	434.0
8700906		281.0	328.0	370.0	435.0
8700910		327.0	343.0	383.0	455.0
8700918		295.0	328.0	351.0	402.0
8700920		330.0	350.0	376.0	412.0
8700930		387.0	416.0	451.0	533.0
8700966		359.0	395.0	417.0	505.0
8700968		352.0	378.0	420.0	518.0
8700974x	NP				

MEAN

S.D.

N

323.00	354.67	385.00	459.60
32.60	32.34	32.37	41.83
15	15	15	15

NP=NOT PREGNANT DNB=DID NOT BREED X=EXCLUDED FROM MEAN

87012F1
 APPENDIX E-8 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

HIGH DOSE GRP 4 12.7 PPT

FEMALE#	DAY OF GESTATION			21
	0	7	14	
8700816	266.0	298.0	314.0	379.0
8700820	285.0	308.0	337.0	359.0
8700824	313.0	338.0	357.0	422.0
8700834	278.0	313.0	336.0	393.0
8700852	299.0	331.0	351.0	423.0
8700856	289.0	312.0	341.0	403.0
8700868	290.0	315.0	331.0	356.0
8700874	349.0	378.0	398.0	473.0
8700884	274.0	306.0	326.0	412.0
8700894	285.0	311.0	345.0	390.0
8700896 APD	291.0	319.0	347.0	397.0
8700898	300.0	319.0	359.0	423.0
8700912x NP				
8700924 APD	328.0	366.0	365.0	386.0
8700932 APD	326.0	359.0	377.0	433.0
8700934	344.0	370.0	389.0	448.0
8700954 NOPU				
8700962 APD	318.0	347.0	368.0	440.0
8700975	303.0	338.0	372.0	409.0

MEAN -
 S.D.
 N

302.12 331.06 353.71 408.59
 24.28 24.96 22.64 30.88
 17 17 17 17

NP=NOT PREGNANT NOPU=PREGNANT, NO PUPS DELIVERED APD=ALL PUPS DIED BY DAY 21PP X=EXCLUDED FROM MEAN

87012F1A

APPENDIX E-9
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION; BRED, DID NOT DELIVER
 INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

CONTROL GRP 1 0 PPT

FEMALE#	DAY OF GESTATION			
	0	7	14	21
8700802	340.0	370.0	389.0	399.0
8700832	319.0	340.0	368.0	360.0
8700838	342.0	370.0	363.0	363.0
8700842	330.0	359.0	381.0	400.0
8700916	377.0	415.0	415.0	427.0
8700936	325.0	350.0	380.0	377.0
8700938	340.0	381.0	418.0	399.0
MEAN	339.00	369.29	387.71	392.14
S.D.	18.85	24.37	21.48	21.28
N	7	7	7	7

87012F1A

APPENDIX E-9 cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION; BRED, DID NOT DELIVER
INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

LOW DOSE GRP 2 1.3 PPT			

FEMALE#	DAY OF GESTATION	14	21

8700958	353.0	384.0	395.0 400.0
MEAN	353.00	384.00	395.00 400.00
S.D.	0.00	0.00	0.00 0.00
N	1	1	1 1

87012F1A

APPENDIX E-9 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION; BRED, DID NOT DELIVER
 INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

MID DOSE GRP 3 4 PPT

FEMALE#	DAY OF GESTATION			
	0	7	14	21
8700850	320.0	331.0	327.0	324.0
8700860	312.0	353.0	363.0	358.0
8700888	287.0	319.0	333.0	317.0
8700974	306.0	339.0	351.0	353.0
MEAN	306.25	335.50	343.50	338.00
S.D.	14.06	14.27	16.52	20.51
N	4	4	4	4

87012F1A

APPENDIX E-9 cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION; BRED, DID NOT DELIVER
INDIVIDUAL MATERNAL GESTATION BODY WEIGHTS (GRAMS)

HIGH DOSE GRP 4 12.7 PPT

FEMALE#	DAY OF GESTATION			21
	0	7	14	
8700912	345.0	356.0	374.0	367.0
8700954	303.0	328.0	361.0	318.0
MEAN	324.00	342.00	367.50	342.50
S.D.	29.70	19.80	9.19	34.65
N	2	2	2	2

87012F1
 APPENDIX E-10
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 INDIVIDUAL MATERNAL POSTPARTUM BODY WEIGHTS (GRAMS)

CONTROL	GRP 1	0 PPT	DAY POSTPARTUM			
			0	7	14	21
FEMALE#						
8700802x	NP					
8700810	DNB					
8700814		331.0	332.0	331.0	322.0	
8700822		393.0	371.0	398.0	394.0	
8700830		341.0	339.0	364.0	273.0	
8700832x	NP					
8700838x	NP					
8700842x	NP					
8700848		360.0	372.0	366.0	360.0	
8700858		346.0	365.0	368.0	338.0	
8700862		357.0	354.0	342.0	330.0	
8700872		343.0	337.0	331.0	298.0	
8700876		358.0	365.0	367.0	342.0	
8700878		411.0	398.0	397.0	364.0	
8700880	APD	377.0	391.0			
8700916x	NP					
8700922		408.0	407.0	393.0	350.0	
8700936x	NP					
8700938x	NP					
8700940		349.0	344.0	361.0	303.0	
8700950	DNB					
8700952		399.0	390.0	361.0	369.0	
8700956		318.0	325.0	340.0	318.0	
8700970		351.0	350.0	343.0	317.0	
8700972		341.0	346.0	338.0	327.0	
8700978	APD	376.0				
MEAN		362.29	361.63	360.00	333.67	
S.D.		27.38	24.97	22.75	31.02	
N		17	16	15	15	

NP=NOT PREGNANT DNB=DID NOT BREED APD=ALL PUPS DIED BY DAY 21pp X=EXCLUDED FROM MEAN

87012F1

APPENDIX E-10 CONT.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE

F1 GENERATION

INDIVIDUAL MATERNAL POSTPARTUM BODY WEIGHTS (GRAMS)

LOW DOSE	GRP 2	1.3 PPT	DAY POSTPARTUM			
FEMALE#		0	7	14	21	
8700808		304.0	321.0	308.0	319.0	
8700828	APD					
8700844		359.0	335.0	347.0	307.0	
8700854		375.0	362.0	370.0	339.0	
8700864		368.0	341.0	364.0	347.0	
8700866		354.0	349.0	366.0	332.0	
8700886		388.0	401.0	355.0	325.0	
8700892		336.0	329.0	318.0	301.0	
8700900	APD	352.0				
8700902		354.0	354.0	374.0	346.0	
8700904		337.0	349.0	359.0	324.0	
8700908		330.0	321.0	312.0	316.0	
8700914		322.0	320.0	330.0	279.0	
8700926		280.0	287.0	283.0	272.0	
8700928		312.0	344.0	342.0	316.0	
8700942		283.0	288.0	314.0	308.0	
8700948		362.0	366.0	332.0	333.0	
8700958x	NP					
8700960		350.0	330.0	335.0	352.0	
8700964		362.0	374.0	360.0	352.0	
MEAN		340.44	339.47	339.35	321.65	
S.D.		30.34	28.82	25.92	23.47	
N		18	17	17	17	

NP=NOT PREGNANT APD=ALL PUPS DIED BY DAY 21PP X=EXCLUDED FROM MEAN

87012F1

APPENDIX E-10 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 INDIVIDUAL MATERNAL POSTPARTUM BODY WEIGHTS (GRAMS)

MID DOSE	GRP	3	4	PPT	DAY POSTPARTUM		
					0	7	14 21
FEMALE#							
8700804					390.0	390.0	370.0 364.0
8700806	DNB				394.0	398.0	408.0 394.0
8700812							
8700818	DNB				369.0	364.0	361.0 355.0
8700826					337.0	343.0	358.0 331.0
8700836					352.0	372.0	375.0 360.0
8700840					318.0	340.0	332.0 328.0
8700846							
8700850x	NP						
8700860x	NP						
8700870	DNB				309.0	309.0	318.0 293.0
8700882							
8700888x	NP				348.0	356.0	346.0 312.0
8700890					324.0	333.0	326.0 327.0
8700906					359.0	334.0	340.0 330.0
8700910					328.0	334.0	351.0 317.0
8700918					336.0	345.0	354.0 326.0
8700920					416.0	424.0	408.0 385.0
8700930					275.0	288.0	286.0 292.0
8700944					396.0	415.0	424.0 403.0
8700966					381.0	370.0	361.0 355.0
8700968							
8700974x	NP						
MEAN					352.00	357.19	357.38 342.00
S.D.					37.60	36.87	35.42 33.45
N					16	16	16 16

NP=NOT PREGNANT DNB=DID NOT BREED X=EXCLUDED FROM MEAN

87012F1
 APPENDIX E-10 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 INDIVIDUAL MATERNAL POSTPARTUM BODY WEIGHTS (GRAMS)

HIGH DOSE GRP 4 12.7 PPT

FEMALE#	DAY POSTPARTUM			
	0	7	14	21
8700816	299.0	243.0	293.0	302.0
8700820	317.0	327.0	326.0	295.0
8700824	327.0	332.0	334.0	326.0
8700834	329.0	277.0	324.0	334.0
8700852	308.0	313.0	336.0	335.0
8700856	331.0	329.0	329.0	309.0
8700868	317.0	326.0	327.0	319.0
8700874	368.0	358.0	363.0	325.0
8700884	291.0	293.0	302.0	286.0
8700894	317.0	336.0	327.0	330.0
8700896 APD	326.0			
8700898	333.0	340.0	335.0	321.0
8700912x NP				
8700924 APD	349.0			
8700932 APD	354.0			
8700934	346.0	336.0	365.0	358.0
8700954 NOPU				
8700962 APD	341.0			
8700976	360.0	357.0	338.0	347.0
MEAN	330.18	320.54	330.69	322.08
S.D.	21.16	32.39	19.73	20.26
N	17	13	13	13

NP=NOT PREGNANT NOPU=PREGNANT, NO PUPS DELIVERED APD=ALL PUPS DIED BY DAY 21pp X=EXCLUDED FROM MEAN

87012P

APPENDIX F-1
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
FOOD CONSUMPTION -- GRAMS

MALES	CONTROL	GRP 1 0 PPT	WEEK OF STUDY									
			0	1	2	3	4	5	6	7	8	9
ANIMAL#												
8700312		146	159	166	170	166	166	164	166	176	169	140
8700318		149	154	164	170	175	175	171	173	181	182	173
8700324		159	178	184	193	187	187	184	180	181	181	180
8700328		152	157	160	176	174	174	179	175	179	173	172
8700330		176	178	195	206	204	204	203	199	210	211	206
8700336		170	177	187	188	187	187	186	179	186	186	161
8700339		134	141	144	153	149	149	148	144	145	148	151
8700347		157	163	165	176	162	162	84	177	179	180	174
8700349		151	166	170	179	175	175	171	172	169	180	176
8700353		175	183	190	193	191	191	191	193	193	189	176
8700354		169	173	180	177	186	186	183	181	187	188	175
8700356		171	168	172	185	183	183	171	175	183	188	177
8700358		146	153	161	156	156	156	156	151	178	175	170
8700364		154	152	156	156	157	157	158	155	162	162	152
8700368		159	167	171	184	173	173	173	179	179	180	178
8700371		171	178	184	195	187	187	188	193	197	200	193
8700373		155	165	179	185	181	181	175	177	172	170	173
8700377		170	187	190	207	218	218	212	210	219	213	204
8700379		147	160	160	161	166	166	171	175	173	178	166
8700392		172	182	188	182	184	184	183	183	185	193	186
8700394		175	180	184	191	187	187	188	197	198	202	197
8700395		151	135	157	164	161	161	169	170	165	174	173
8700405		174	160	158	160	164	164	164	172	172	175	174
8700407		149	162	175	182	188	188	186	174	183	192	189
8700408		131	143	149	152	153	153	146	154	146	155	151
MEAN	158.5	164.8	171.6	177.6	176.6	176.6	176.6	171.7	176.2	179.9	181.8	174.7
S.D.	13.1	13.9	14.1	15.8	16.4	16.4	16.4	24.4	15.2	16.6	15.5	16.1
N	25	25	25	25	25	25	25	24	25	25	25	25

87012P
 APPENDIX F-1 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 FOOD CONSUMPTION -- GRAMS

HALES	LOW DOSE GRP 2	1.3 PPT	WEEK OF STUDY									
			0	1	2	3	4	5	6	7	8	9
ANIMAL#												
8700313			153	168	169	174	163	166	164	166	171	154
8700314			161	175	177	186	183	185	196	199	193	193
8700317			162	172	181	181	177	187	200	204	209	206
8700320			147	153	161	165	158	159	166	167	171	163
8700323			181	173	178	188	178	191	197	184	195	204
8700326			168	173	180	189	195	197	200	198	201	193
8700329			155	160	163	167	170	150	159	170	179	165
8700331			146	149	155	152	162	156	171	172	179	174
8700332			172	182	185	183	190	186	193	193	197	197
8700342			159	164	160	162	143	167	164	164	161	164
8700346			143	142	165	154	157	157	166	153	165	157
8700348			151	164	158	158	158	163	166	158	160	156
8700359			162	172	169	171	170	168	172	180	173	177
8700366			170	174	174	181	194	196	201	194	196	199
8700374			158	169	178	189	189	188	192	189	194	181
8700375			148	161	167	158	167	166	165	164	174	166
8700376			156	167	178	191	189	186	195	189	193	188
8700378			146	150	149	161	157	159	165	157	156	160
8700380			143	152	161	161	161	162	169	159	163	161
8700381			140	145	152	146	148	154	159	155	161	154
8700390			148	111	187	188	169	168	172	171	179	171
8700396			148	163	176	183	181	172	176	168	175	169
8700397			173	178	190	194	189	186	190	185	200	195
8700406			175	187	176	209	190	205	211	202	205	205
8700411			143	157	159	167	165	163	180	174	179	178
MEAN	156.3	162.4	169.9	174.3	173.5	178.9	177.0	181.0	177.2			
S.D.	11.6	15.8	11.3	15.8	15.1	14.9	16.7	15.7	17.6			
N	25	25	25	25	25	23	25	25	25			

87012P

APPENDIX F-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
FOOD CONSUMPTION -- GRAMS

MALES				MID DOSE		GRP 3		4 PPT		WEEK OF STUDY																			
										0		1		2		3		4		5		6		7		8		9	
ANIMAL#																													
8700311				145		161		164		166		155		160		164		154		150		155							
8700315				157		171		196		184		209		202		218		199		201		196							
8700316				132		138		147		152		143		154		152		151		158		162							
8700319				162		165		174		184		181		185		192		195		205		200							
8700322				153		163		175		181		189		193		195		198		213		206							
8700325						186		197		194		187		188		194		190		197		198							
8700333				164		167		172		183		181		147		195		182		187		177							
8700338				169		171		183		189		186								201		193							
8700341				155		170		177		184		171		130		200		194		197		182							
8700350				156		165		174		181		176		181		185		183		183		170							
8700355				149		160		161		165		153		162		168		166		175		167							
8700361				145		148		152		153		146		144		149		148		154		147							
8700362				163		170		173		173		173		174		178		176		176		184							
8700365				157		169		169		173		175		177		178		176		182		175							
8700367				182		181		182		196		190		203		206		190		196		186							
8700370				150		156		155		162		158		168		169		168		165		170							
8700384				161		169		167		187		174		179		185		182		190		187							
8700386				166		174		176		179		170		175		185		178		181		178							
8700389				141		147		153		162		162		162		172		164		177		168							
8700391				161		163		165		177		169		173		181		173		185		182							
8700398				164		160		174		187		181		186		195		179		199		192							
8700399				159		160		163		161		163		163		173		171		177		175							
8700401				164		173		176		172		172		176		137		173		181		189							
8700409				163		173		178		186		178		177		194		191		196		186							
8700410				142		154		149		156		149		152		152		143		152		146							
MEAN				156.7		164.6		170.1		175.7		171.6		171.3		180.1		176.0		183.1		178.8							
S.D.				10.7		10.6		12.9		13.1		15.5		18.0		19.7		15.9		17.2		15.7							
N				24		25		25		24		25		24		24		24		25		25							

87012P
 APPENDIX F-1 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 FOOD CONSUMPTION -- GRAMS

MALES		HIGH DOSE GRP 4 12.7 PPT									
		WEEK OF STUDY									
		0	1	2	3	4	5	6	7	8	9
ANIMAL#											
8700321		139	147	152	159	155	161	166	165	164	169
8700327		161	179	178	181	181	184	189	190	190	184
8700334		165	177	181	190	136	181	195	196	199	197
8700335		137	150	158	129	175	159	156	148	166	161
8700337		154	166	172	174	170	175	181	183	187	188
8700340		147	158	158	167	168	164	170	165	168	172
8700343		160	186	184	191	187	183	187	188	196	182
8700344		153	171	173	178	174	177	178	184	182	179
8700345		132	145	142	149	151	147	148	146	152	150
8700352		157	177	181	194	188	190	194	192	203	188
8700357		149	162	171	178	170	183	184	188	186	185
8700360		147	157	168	177	175	175	190	182	184	190
8700363		166	181	176	189	182	176	189	183	178	180
8700372		166	171	166	186	183	190	191	179	188	191
8700382		155	167	163	173	176	176	191	179	203	189
8700383		144	161	168	171	193	192	206	193	211	197
8700385		142	149	151	151	157	156	159	156	165	168
8700387		132	138	139	139	143	141	150	146	149	139
8700388		147	163	167	176	174	183	196	187	187	184
8700393		155	158	160	173	182	182	193	180	184	188
8700400		168	183	186	185	182	183	186	182	194	200
8700402		152	163	166	165	173	137	200	181	190	90
8700403		141	160	157	161	166	164	179	166	175	174
8700404		161	184	170	191	185	189		181	192	195
MEAN		151.3	164.7	166.1	172.0	174.0	172.8	181.7	176.7	183.0	176.7
S.D.		10.7	13.3	12.4	17.0	12.5	15.7	16.1	15.0	15.9	23.7
N		24	24	24	24	24	24	23	24	24	24

APPENDIX F-2
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
FOOD CONSUMPTION -- GRAMS

87012P

FEMALES	CONTROL	GRP 1 0 PPT	WEEK OF STUDY									
			0									
			1	2	3	4	5	6	7	8	9	10
ANIMAL#												
8700413		110	113	115	111	106	106	108	109	96	108	
8700421		118	124	125	118	119	119	117	115	109	111	
8700425		114	136	125	122	107	107	131	120	121	111	
8700430		112	94	110	107	105	105	104	109	111	110	
8700431		123	125	142	121	131	131	123	140	130	123	
8700437		120	125	128	120	129	129	120	116	127	111	
8700440		131	134	129	122	133	133	134	131	120	124	
8700442		125	119	129	118	132	114	115	111	115	117	
8700445		119	128	127	124	118	117	111	127	119	107	
8700446		119	135	121	119	130	147	122	129	137	101	
8700447		121	122	134	133	118	114	111	116	114	111	
8700460		129	126	140	138	133	125	130	160	141	122	
8700461		119	123	136	132	125	118	121	132	117	113	
8700465		126	127	126	128	123	114	107	115	111		
8700470		125	126		126	124	118	126	124	126	117	
8700472		121	124	125	122	119	114	120	110	126	51	
8700479		116	127	126	116	113	111	111	115	105	112	
8700484		118	122	122	125	109	118	99	107	119	86	
8700496		129	136	133	144	131	132	132	145	130	123	
8700498		134	147	146	150	158	129	151	154	137	144	
8700507		117	124	124	135	143	134	142	145	137	126	
8700509		155	154	159	156	163	155	151	163	152	161	
8700512		126	134	140	131	142	142	144	136	143	141	
8700520		115	121	123	116	120	116	120	121	126	126	
8700523		53	132	126	104	116	110	101	108	101	92	103
8700525		55	143	131	125	130	117	126	130	124	131	114
8700535		117	128	128	131	113	113	119	122	124	123	113
8700541		116	113	112	105	108	107	106	112	108	111	106
8700542		111	116	111	119	110	114	101	121	105	120	108
8700545		118	122	136	133	139	128	125	144	115	120	115
8700546		126	131	131	125	128	126	119	126	125	123	120
8700548		123	134	130	126	134	134	133	97	135	149	125
8700550		127	120	132	118	119	122	125	126	124	119	121
8700551		132	144	141	127	135	137	138	141	126	142	131
MEAN		118.2	127.3	129.2	124.9	125.6	122.1	121.8	125.8	122.2	117.8	115.6
S.D.		18.3	11.0	10.2	11.4	13.8	11.8	13.7	16.0	12.7	19.5	8.8
N		34	34	33	34	33	34	34	34	34	33	10

FEMALES LOW DOSE GRP 2 1.3 PPT

[illegible]

87012P

APPENDIX F-2 cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION

FOOD CONSUMPTION -- GRAMS

FEMALES MID DOSE GRP 3 4 PPT												
ANIMAL#	WEEK OF STUDY				3	4	5	6	7	8	9	10
	0	1	2									
8700415	103	101	99	100	100	104	103	105	105	105	106	
8700417	123	122	139	134	133	130	132	131	131	131	120	
8700420	116	120	117	115	114	115	114	110	110	111	113	
8700422	116	110	116	115	116	111	108	102	102	97	98	
8700427	140	140	143	145	137	161	140	137	135	135	131	
8700432	103	112	128	112	144	124	130	134	130	130	128	
8700435	109	118	116	118	124	132	138	134	134	139	136	
8700436	128	133	133	111	110	123	121	117	124	124	120	
8700443	106	128	113	124	121	141	121	130	133	129	121	
8700444	110	126	107	114	115	116	117	107	121	121	110	
8700453	127	136	121	117	126	115	121	119	123	123	110	
8700455	116	146	145	133	129	132	137	142	145	135	130	
8700456	115	119	120	122	121	122	132	132	111	129	129	
8700459	122	118	126	116	116	114	114	115	118	108	108	
8700466	117	140	133	129	121	126	118	131	128	121	121	
8700469	120	129	135	131	135	131	135	140	122	122	129	
8700471	107	115	110	111	109	106	115	116	108	108		
8700478	118	133	120	120	102	126	111	121	122	122		
8700480	136	135	130	132	126	119	112	132	124	124	134	
8700486	125	124	132	129	124	120	120	126	129	104	104	
8700489	154	164	161	165	158	147	157	155	152	152	156	
8700490	133	139	144	137	142	139	132	131	126	135	135	
8700493	100	102	95	101	100	98	101	103	104	102	102	
8700494	121	120	116	127	123	121	110	123	125	115	115	
8700508	104	109	104	102	100	104	106	111	111	111	111	
8700511	114	115	106	120	117	113	112	119	121	121	118	
8700515	124	128	136	139	127	131	144	142	131	135	135	
8700516	108	116	115	104	102	104	112	112	102	101	101	
8700524	59	133	120	121	112	118	124	123	127	114	123	
8700526	54	128	110	109	93	104	96	104	101	100	104	
8700527	53	152	130	142	126	126	112	137	137	130	145	
8700537	116	125	115	119	122	119	116	119	123	122	121	
8700543	111	118	121	119	124	117	122	123	125	119	121	
8700547	132	145	122	131	124	122	122	119	134	123	116	
MEAN	112.9	126.4	122.9	122.5	120.4	121.5	120.7	123.6	122.7	120.1	121.7	
S.D.	21.6	13.9	14.4	13.9	14.0	13.5	13.3	12.9	12.9	13.4	13.4	
N	34	34	34	34	34	33	34	34	34	32	6	

87012P

APPENDIX F-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
FOOD CONSUMPTION -- GRAMS

FEMALES HIGH DOSE GRP 4 12.7 PPT											
ANIMAL#	WEEK OF STUDY										
	0	1	2	3	4	5	6	7	8	9	
87000414	128	130	136	141	134		140	132	139	147	
87000416	133	135	139	144	145		141	141	147	107	
87000418	30	136	111	115	106	144	104	100	107	107	
87000419	109	114	113	106	107	108	110	111	100	119	
87000423	101	106	103	111	110	110	114	115	114	113	
87000426	105	111	102	102	104	103	106	99	95	104	
87000429	114	120	119	131	124	125	126	123	76	141	
87000434	104	109	100	118	123	115	118	121	127	115	
87000439	108	119	111	110	121	115	123	115	126	114	
87000450	113	114	105	111	118	110	118	106	115	103	
87000451	101	114	112	105	114	115	109	105	113	106	
87000458	115	125	132	132	132	126	124	127	124	123	
87000467	101	108	111	104	104	109	109	109	105	101	
87000477	103	116	110	113	111	113	121	110	111	110	
87000481	118	128	129	132	125	140	130	132	128	127	
87000482	118	128	127	122	122	121	122	121	125	125	
87000485	135	144	158	135	136	130	135	131	142		
87000497	117	125	124	121	119	123	123	120	125	116	
87000500	102	109	110	99	93	105	98	103	94	100	
87000503	105	106	114	120	102	123	114	113	120	116	
87000504	103	118	107	113	110	114	115	103	116	114	
87000505	130	136	135	129	127	129	127	127	132	123	
87000506	126	133	129	138	131	139	136	128	138	128	
87000510	134	139	142	137	145	141	149	141	145	135	
87000513	114	123	127	122	123	123	122	114	126	120	
87000514	109	123	122	121	116	124	119	120	121	111	
87000517	--09	120	119	115	113	115	112	115	120	112	
87000521	124	137	143	140	131	140	147	125	127	126	
87000528	101	113	114	105	104	106	105	109	108	97	103
87000530	98	114	99	103	104	100	93	90	105	95	107
87000532	103	138	146	141	140	145	149	137	133	127	131
87000538	107	124	106	124	116	101	116	111	118	121	114
87000539	109	16	136	125	121	124	124	126	125	123	119
87000540	117	122	122	136	131	133	131	124	139	128	134
MEAN	110.1	119.2	121.0	120.7	119.6	120.5	121.5	117.8	120.2	116.8	118.0
S.D.	17.7	21.1	14.9	13.5	13.0	13.1	14.0	12.4	15.7	12.2	12.6
N	34	34	34	34	34	33	34	34	34	33	6

87012P

APPENDIX F-3
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

CONTROL GRP 1 0 PPT												
DAY OF GESTATION												
FEMALE#	0	7	7	14	14	21	21	28				
8700413	NP											
8700421				133	135			125				
8700425				144	152			123				
8700430				146	154			133				
8700431				149	165			143				
8700437				148	149			152				
8700440	NP											
8700442				108	138			155				
8700445		101		123	105							
8700446		164		164	162							
8700447		142		154	110			168				
8700460	DNB											
8700461		145		159	164			163				
8700465	DNB											
8700470	NP											
8700472		147		155	151			176				
8700479				137	138			157				
8700484				150	147			153				
8700496				169	174			153				
8700498				177	162			166				
8700507				168	165			136				
8700509				164	204			185				
8700512				180	192			180				
8700520				165	172			150				
8700523				141	142			124				
8700525				157	165			166				
8700535	NP											
8700541	NP											
8700542				156	143			140				
8700545				152	146			152				
8700546				153	146			102				
8700548	NP											
8700550				131	137			133				
8700551				164	150			133				
MEAN		139.8		151.8	152.6			148.7				
S.D.		23.3		16.4	21.2			20.2				
N		5		26	26			24				

NP=NOT PREGNANT DNB=DID NOT BREED

87012P
 APPENDIX F-3 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

LOW DOSE GRP 2 1.3 PPT									
		DAY OF GESTATION							
		0 - 7		7 - 14		14 - 21		21 - 28	
FEMALE#									
8700412	NP			111		103		127	
8700424									
8700433	NP			145		133			
8700438	APD								
8700441	NP								
8700448				138		172		194	
8700449				155		153		142	
8700452				149		173		137	
8700454	NP								
8700457	APD			163		148		112	
8700462	APD			137		137		126	
8700463				131		134		140	
8700464		115		139		137		166	
8700468	NP								
8700473				170		157		145	
8700475				144		140		151	
8700476				166		154		144	
8700487	DNB								
8700488				154		172		173	
8700491	NP								
8700492	DNB								
8700495				160		165		152	
8700499				153		163		174	
8700501				130		124		131	
8700502				148		152		144	
8700518		155		158		160		211	
8700519	APD	116		121		126		104	
8700522		155		163		163		189	
8700529	APD	98		117		113		111	
8700531				142		138		120	
8700533				150		155		115	
8700534				124		136		104	
8700536				157		138		127	
8700544	APD			135		136		114	
8700549				155		169		149	
MEAN		127.8		145.0		146.3		142.4	
S.D.		25.8		15.5		18.4		28.3	
N		5		27		27		26	

NP=NOT PREGNANT DNB=DID NOT BREED APD=ALL PUPS DIED BY DAY 21PP

87012P

APPENDIX F-3 cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION

INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

MID DOSE	GRP	3	4	PPT	DAY OF GESTATION						
					0	7	7	14	14	21	21 - 28
FEMALE#											
8700415	NP						154		152		126
8700417							150		147		137
8700420							130		137		
8700422	APD						156		171		158
8700427							156		167		149
8700432							154		169		124
8700435	NP										
8700436							149		159		120
8700443											
8700444	NP										
8700453	NP										
8700455	NP										
8700456							138		145		137
8700459				133			115		134		153
8700466							155		162		149
8700469				158			170		152		203
8700471							148		156		140
8700478							133		154		151
8700480							173		173		154
8700486	NP										
8700489	NP										
8700490							154		147		150
8700493	NP										
8700494				118			146		151		155
8700508				141			142		138		147
8700511							143		168		163
8700515							154		194		160
8700516	APD						142		134		97
8700524	NP										
8700526							121		131		126
8700527				144			155		149		251
8700537							151		167		150
8700543							147		137		107
MEAN					138.8		147.3		153.9		148.1
S.D.					14.7		13.3		15.4		31.0
N					5		24		24		23

NP=NOT PREGNANT APD=ALL PUPS DIED BY DAY 21PP

87012P
 APPENDIX F-3 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

HIGH DOSE GRP 4 12.7 PPT	FEMALE#	DAY OF GESTATION					
		0 - 7	7 - 14	14 - 21	21 - 28		
		161	182	185	214		
	8700414						
	8700416						
	8700418						
	8700419						
	8700423						
	8700426		132	134	122		
	8700429		161	156	155		
	8700434		139	129	104		
	8700439						
	8700450		134	128	144		
	8700451						
	8700458						
	8700467		137	136	169		
	8700477		144	143	173		
	8700481						
	8700482						
	8700485						
	8700497						
	8700500		133	143	124		
	8700503		139	134	117		
	8700504		133	141	139		
	8700505		150	157	147		
	8700506	154	162	195	202		
	8700510	149	181	173	156		
	8700513	148	156	116			
	8700514						
	8700517		139	162	141		
	8700521						
	8700528		125	137	129		
	8700530						
	8700532						
	8700538		153	153	136		
	8700539		145	159	135		
	8700540		155	164	161		
MEAN		153.0	147.4	149.7	148.2		
S.D.		5.9	15.9	20.3	28.3		
N		4	19	19	18		

NP=NOT PREGNANT DNB=DID NOT BREED NOPU=PREGNANT, NO PUPS DELIVERED

87012P8

APPENDIX F-4
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION; BRED, DID NOT DELIVER
 INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

CONTROL GRP 1 0 PPT

FEMALE#	DAY OF GESTATION						
	0 - 7	7 - 14	14 - 21	21 - 28			
8700413		117	91	94			
8700440		160	145	116			
8700470	138	148	140				
8700535		162	159	112			
8700541		135	100	93			
8700548		115	129	140			
MEAN	138.0	139.5	127.3	111.0			
S.D.	0.0	20.6	26.6	19.2			
N	1	6	6	5			

87012PB

APPENDIX F-4 cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION; BRED, DID NOT DELIVER
INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

LOW DOSE GRP 2 1.3 PPT									
		DAY OF GESTATION							
		0 - 7	7 - 14	14 - 21	21 - 28				
FEMALE#									
8700412	129		115	129					
8700433			148	137					
8700441			144	129					
8700454			140	144	140				
8700468			131	148					
8700491			168	159					
MEAN	129.0	141.0	141.0	140.0					
S.D.	0.0	17.7	11.7	0.0					
N	1	6	6	6	1				

87012P8

APPENDIX F-4 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION; BRED, DID NOT DELIVER
 INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

MID DOSE GRP 3 4 PPT

DAY OF GESTATION

0 - 7 - 14 - 21 - 28

FEMALE#

8700415	130	120			
8700436	140	130	129		
8700444	149	130			
8700453	112	116	112		
8700455	163	200	124		
8700486	154	135	150		
8700489	181	140			
8700493	131	118	97		
8700524	136	110			

MEAN

144.0	133.2	122.4
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S.D.

20.4	26.9	19.8
------	------	------

N

5

8701248
 APPENDIX F-4 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION; BRED, DID NOT DELIVER
 INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

HIGH DOSE GRP 4 12.7 PPT									
		DAY OF GESTATION							
		0 - 7	7 - 14	14 - 21	21 - 28				
FEMALE#									
8700416		110	137	127					
8700419		139	132	111					
8700423		116	115	109					
8700439		135	137	130					
8700451		129	119	86					
8700458		148	160	129					
8700481		159	123						
8700482		131	120						
8700485		157	150	115					
8700497		147	118						
8700514		132	119	121					
8700521	144	174	65						
8700530		100	98	109					
8700532		128	131	115					
MEAN	144.0	136.1	123.1	115.2					
S.D.	0.0	20.0	22.8	13.0					
N	1	14	14	10					

87012P
 APPENDIX F-5
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 INDIVIDUAL MATERNAL POSTPARTUM FOOD CONSUMPTION -- GRAMS

CONTROL GRP 1 0 PPT												
DAY OF LACTATION												
FEMALE#	0	7	7	14	14	21	21	28				
8700421			179		357							
8700425			200		336							
8700430			205		280							
8700431			194		245							
8700437			200		370							
8700442	202		353		474			391				
8700445			188		349							
8700447			276		418							
8700461			264		406							
8700472			278		414							
8700479			300		413							
8700484			198		367							
8700496			215		343							
8700498			255		349							
8700507			211		340							
8700509			259		403							
8700512			407		279							
8700520			787		278							
8700523			282		326							
8700525	232		321		779							
8700542			271		292							
8700545			328		296							
8700546			188		192							
8700550			185		303							
8700551			258		292							
MEAN	217.0		272.1		356.0			391.0				
S.D.	21.2		122.6		108.4			0.0				
N	2		25		25			1				

87012P
 APPENDIX F-5 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 INDIVIDUAL MATERNAL POSTPARTUM FOOD CONSUMPTION -- GRAMS

LOW DOSE GRP 2 1.3 PPT									
		DAY OF LACTATION							
		0 -	7	14	21	28			
FEMALE#									
8700424		203				285			
8700438	APD								
8700448		462				291			
8700449		268				373			
8700452		231				326			
8700457	APD								
8700462	APD								
8700463		207				313			
8700464		284				361			
8700473		271				399			
8700475		257				384			
8700476		263				323			
8700488		351				674			
8700495		226				577			
8700499		503				303			
8700501		182				245			
8700502		477				243			
8700518		364							
8700519	APD								
8700522		472				304			
8700529	APD								
8700531		243				344			
8700533		148				196			
8700534		245				305			
8700536		292				311			
8700544	APD	128							
8700549		255				369			
MEAN		144.0	287.8			346.3			
S.D.		99.0	107.0			108.9			
N		2	22			20			

APD=ALL PUPS DIED BY DAY 21PP

87012P

APPENDIX F-5 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 INDIVIDUAL MATERNAL POSTPARTUM FOOD CONSUMPTION -- GRAMS

MID DOSE	GRP 3	4	PPT	DAY OF LACTATION						
FEMALE#	0	7	7	14	14	21	21	28		
8700417			255			362				
8700420			194			304				
8700422	APD									
8700427			237			281				
8700432			221			303				
8700435			213			338				
8700443			217			290				
8700456		192	293			418				
8700459			229			282				
8700466			291			515				
8700469			319			395				
8700471		193	360			347				
8700478			285			396				
8700480		181	346			337				
8700490			264			356				
8700494		351	289			333				
8700508			309			805				
8700511			319			326				
8700515			312			308				
8700516	APD									
8700526			260			342				
8700527			251			810				
8700537			286			333				
8700543			271			301				
8700547			373			303				
MEAN	188.7	278.0	382.0							
S.D.	6.7	48.0	144.1							
N	3	23	23							

APD=ALL PUPS DIED BY DAY 21PP

87012P
 APPENDIX F-5 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 INDIVIDUAL MATERNAL POSTPARTUM FOOD CONSUMPTION -- GRAMS

HIGH DOSE GRP 4 12.7 PPT											
		DAY OF LACTATION									
		0	7	7	14	14	21	21	28		
FEMALE#											
87D0414		453							320		
87D0426		205							283		
87D0429		221							349		
87D0434		190							243		
87D0439	NOPU										
87D0450		300							367		
87D0467		284							558		
87D0477		281							561		
87D0500		248							322		
87D0503		219							317		
87D0504		356							343		
87D0505		246							322		
87D0506		485							308		
87D0510		239							284		
87D0517		272							345		
87D0521	NOPU										
87D0528		247							241		
87D0538		230							340		
87D0539		249							335		
87D0540		225							323		
MEAN		187.5	275.0						342.3		
S.D.		20.5	80.5						86.0		
N		2	18						18		

NOPU=PREGNANT, NO PUPS DELIVERED

87012F1

APPENDIX F-6
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
FOOD CONSUMPTION -- GRAMS

MALES				CONTROL	GRP 1	0	PPT	WEEK OF STUDY														
				0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
ANIMAL#																						
8700801	86	110	143	156	172	175	185	189	177	191	184	180	177	172	167	158						
8700809	77	103	148	152	180	195	195	191	185	201	194	206	194	186	186	173						
8700813	92	135	178	182	210	216	219	222	219	223	204	207	207	198	199	195						
8700821	80	113	151	159	186	186	200	194	196	201	194	192	188	185	181	161						
8700829		116	151	170	200	212	217	217	220	228	215	218	201	208	191	199						
8700831		105	145	165	196	212	223	232	232	237	227	227	224	207	216	198						
8700837		98	137	157	180	194	204	215	209	206	201	204	195	198	202	181						
8700841		110	156	183	210	220	222	231	235	233	218	214	208	199	206	198						
8700847		99	142	166	181	198	196	207	220	224	213	205	205	204	198	193						
8700857		95	133	159	186	201	212	211	218	218	205	212	202	202	191	183						
8700861		90	134	151	194	221	219	219	238	231	202	205	192	212	198	179						
8700871		53	102	132	161	180	190	188	197	201	195	205	201	199	193	186						
8700875		57	117	155	186	208	214	217	224	235	223	211	207	208	206	196						
8700877		59	126	169	197	215	223	235	232	233	236	246	214	215	224	217						
8700879		56	121	160	202	228	236	239	224	225	235	239	224	225	224	209						
8700915			93	136	166	195	202	212	210	212	214	210	198	214	211	202						
8700921			91	114	149	168	185	203	210	224	201	206	207	206	203	191						
8700935			87	124	163	152	204	204	194	201	197	198	191	193	197	182						
8700937			110	163	207	231	238	246	241	246	237	224	226	222	216	208						
8700939			88	123	167	188	197	213	208	218	198	207	196	194	198	196						
8700949			115	157	183	211	211	224	226	231	231	225	224	226	216	209						
8700951			73	101	144	172	195	209	216	232	215	220	219	214	213	193						
8700955			67	114	161	196	216	232	231	241	231	237	220	211	214	202						
8700969				107	107	125	198	214	232	226	232	278	225	217	212	204						
8700971				92	92	137	174	200	203	210	212	209	158	204	204	191						
8700977						115	165	196	212	234	230	223	227	227	224	214						
MEAN	83.8	93.3	122.4	148.1	174.2	189.3	205.4	213.8	215.7	221.6	213.2	216.1	205.0	205.6	203.5	193.0						
S.D.	6.7	25.4	29.8	23.3	29.4	30.4	17.7	15.9	16.5	14.6	15.7	19.5	16.7	13.3	14.0	14.7						
N	4	15	22	23	25	26	26	26	26	26	26	25	26	26	26	26						

87012F1

87012F1

APPENDIX F-7
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
FOOD CONSUMPTION -- GRAMS

FEMALES		CONTROL	GRP 1	0	PPT	WEEK OF STUDY														
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
ANIMAL#																				
8700802	84	115	144	138	149	162	151	154	159	168	153	149	146	141	144	144	142			
8700810	80	107	129	123	143	145	160	149	139	139	139	140	131	124	122	122	117			
8700814	81	107	129	125	127	137	139	140	142	135	129	136	118	122	109	106	106			
8700822	83	119	130	138	148	150	147	159	155	150	150	152	136	132	114	106	106			
8700830	73	109	133	124	135	142	146	151	136	143	130	136	124	125	128	119	119			
8700832	65	93	120	132	125	129	127	143	137	125	136	136	124	123	128	114	114			
8700838		99	122	132	132	155	153	167	152	164	159	150	149	140	153	143	143			
8700842		76	124	128	137	138	143	151	147	155	139	153	144	137	134	122	122			
8700848		104	102	111	120	123	143	147	149	159	146	144	142	143	137	136	136			
8700958		23	118	136	136	142	143	152	148	159	146	150	128	133	138	124	124			
8700862		75	107	130	162	140	162	153	164	162	155	157	131	144	158	126	126			
8700872		59	86	104	122	125	154	148	141	149	128	121	119	123	119	103	103			
8700876		59	99	117	124	122	133	135	144	137	140	143	133	144	129	109	109			
8700878		60	103	127	139	148	166	175	171	153	147	156	149	143	136	136	136			
8700880		59	104	127	157	154	149	165	159	165	147	153	142	144	149	141	141			
8700916		82	112	139	134	133	150	161	158	163	168	167	126	140	131	128	128			
8700922		89	115	115	134	132	142	155	157	167	150	169	147	153	133	134	134			
8700936		76	108	108	129	131	133	139	144	149	141	145	137	136	131	111	111			
8700938		91	120	142	141	142	141	145	146	144	127	140	127	129	122	108	108			
8700940		78	130	104	130	133	134	144	145	141	134	137	134	132	135	120	120			
8700950		76	142	108	142	137	134	144	153	146	147	140	133	128	132	119	119			
8700952		97	125	97	125	127	124	136	144	147	146	149	142	171	164	135	135			
8700956		66	111	93	111	117	115	115	135	129	130	132	125	121	120	120	120			
8700970			96		96	133	139	141	156	148	145	153	130	141	136	117	117			
8700972			76		76	101	117	129	136	138	133	132	136	135	131	124	124			
8700978			67		67	103	137	146	165	179	164	165	163	158	146	144	144			
MEAN	77.7	84.3	104.9	119.5	129.3	134.6	141.6	147.8	149.4	151.0	143.0	145.6	135.0	137.0	133.8	123.2	123.2			
S.D.	7.3	27.9	22.3	13.0	21.8	14.3	12.7	12.4	9.9	12.4	11.5	10.7	10.5	11.9	13.0	12.5	12.5			
N	6	15	22	23	26	26	26	26	26	26	26	26	26	26	26	26	26			

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APPENDIX F-7 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
FOOD CONSUMPTION -- GRAMS

FEMALES LOW DOSE-- GRP 2 1.3 PPT				WEEK OF STUDY																
				0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
ANIMAL#																				
8700808				66	89	111	114	126	129	131	137	119	118			114	119	122	120	116
8700828				77	122	136	133	149	148	164	162	154	164	176		158	144	143	147	139
8700844						117	126	134	148	152	148	155	154	139	144	143	135	133	125	
8700854					48	114	121	140	142	164	185	147	141	152	146	159	147	149	126	
8700864					65	98	107	126	126	134	145	151	151	135	144	145	136	130	130	
8700866					56	94	112	128	126	128	130	129	138	142	130	132	130	132	116	
8700886					47	88	119	134	146	160	166	168	171	163	166	156	153	131	134	
8700892						79	96	99	112	117	131	137	134	135	129	129	130	123	109	
8700900						94	124	135	135	127	147	148	142	150	156	142	145	136	112	
8700902						86	116	130	116	135	142	139	151	135	173	142	150	165	147	
8700904						92	126	141	130	133	134	149	147	139	147	128	156	131	111	
8700908						83	107	123	128	129	88	146	106	150	147	150	145	135	111	
8700914						87	108	123	111	143	143	149	137	139	142	134	132	139	120	
8700926						74	87	105	109	113	115	110	117	111	110	109	111	111	103	
8700928						70	86	122	118	135	137	143	145	136	140	126	122	128	112	
8700942						76	99	119	129	145	142	146	138	141	132	146	133	124	120	
8700948						73	99	124	127	137	137	145	155	148	148	141	156	146	95	
8700958							108	148	161	170	175	174	167	158	169	157	158	161	139	
8700960							88	115	130	132	142	147	151	137	137	124	133	129	120	
8700964							73	100	125	134	142	144	140	150	141	141	144	136	130	
MEAN				71.5	71.2	92.5	107.4	126.1	129.8	139.1	142.4	145.0	143.4	144.0	143.6	137.7	139.1	135.3	120.8	
S.D.				7.8	29.3	18.0	15.9	14.0	13.7	15.6	20.6	14.3	16.5	13.5	16.3	13.0	12.8	13.1	13.1	
N				2	6	17	20	20	20	20	20	20	20	20	19	20	20	20	20	

87012F1

APPENDIX F-7 cont.

FEMALES		MID DOSE	GRP 3	4	PPT	WEEK OF STUDY															MEAN		S.D.	
ANIMAL#	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15								
8700804	85	109	137	114	133	148	143	157	142	172	174	121	104	127	122	133								
8700806	69	86	98	108	114	126	124	135	140	128	115	128	128	121	116	116								
8700812	92	117	144	152	173	164	147	161	158	154	158	153	150	140	141	137								
8700818	70	99	114	113	135	134	140	145	145	148	142	141	135	126	132	123								
8700826	86	108	112	117	135	130	148	130	136	151	147	145	120	128	133	122								
8700836	68	97	113	111	127	134	144	151	130	133	140	127	132	119	122	113								
8700840	99	121	136	133	139	133	137	149	151	134	133	148	143	143	151	119								
8700846	94	120	134	141	143	154	154	153	156	149	140	144	135	146	130	130								
8700850	86	90	128	120	127	140	140	136	145	145	139	140	144	126	128	131								
8700860	47	93	133	130	129	144	144	150	131	150	148	106	165	132	152	138								
8700870	77	108	134	144	148	141	157	163	163	159	149	138	127	135	122	117								
8700882	66	97	96	117	121	116	116	129	118	131	118	123	116	117	112	114								
8700888	88	117	120	128	136	141	149	141	149	147	133	136	136	125	121	116								
8700890	82	112	123	129	141	149	141	149	95	147	140	147	139	135	130	120								
8700906	82	116	130	118	147	143	150	143	150	149	149	155	146	147	145	126								
8700910	77	108	119	122	136	138	146	138	146	139	132	133	126	124	129	118								
8700918	87	112	122	134	126	135	147	135	147	157	138	139	132	139	121	120								
8700920	87	118	146	130	143	144	151	144	151	156	141	157	141	147	108	118								
8700930	78	109	136	144	157	160	164	160	164	167	168	169	163	157	159	145								
8700944	77	100	106	105	110	124	115	119	115	133	114	119	111	122	113	99								
8700966			97	131	144	144	185	161	144	174	161	197	184	151	150	145								
8700968			96	121	124	140	139	145	140	145	142	149	146	115	133	121								
8700974			77	105	126	135	162	135	162	162	151	149	151	150	156	134								
MEAN	78.3	90.4	100.3	118.4	125.2	130.6	137.7	143.7	144.3	149.0	142.3	141.9	138.0	133.6	131.6	124.1								
S.D.	10.5	19.7	19.9	13.7	19.7	13.3	11.7	10.2	18.7	12.7	15.0	18.6	18.0	12.2	14.8	11.0								
N	6	12	20	20	23	23	23	23	23	23	23	23	23	23	23	23								

87012F1

APPENDIX F-7 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
FOOD CONSUMPTION -- GRAMS

FEMALES HIGH DOSE GRP 4 12.7 PPT																	
WEEK OF STUDY																	
ANIMAL#	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
8700816	64	86	107	99	114	125	129	129	124	133	124	121	124	127	131	119	
8700820	73	99	111	115	124	123	126	130	124	131	126	127	125	113	124	122	
8700824	87	107	122	116	138	134	144	147	125	125	118	118	124	123	114	119	
8700834	60	82	105	114	119	121	129	120	133	119	122	122	125	126	115	113	
8700852		79	101	115	116	128	139	143	133	148	136		140	133	138	124	
8700856		87	116	128	137	145	139	144	146	141	144	138	142	125	128	123	
8700868		73	92	94	106	111	122	122	126	124	119	127	122	113	120	109	
8700874	---	78	103	118	132	141	150	156	154	156	157	152	148	141	146	132	
8700884		37	82	104	125	134	145	149	143	154	143	140	141	134	139	118	
8700894			83	111	123	118	123	136	133	134	134	133	131	130	122	118	
8700896			84	112	135	125	58	164	139	142	128	140	136	126	129	108	
8700898			81	112	122	129	141	146	151	149	141	149	147	140	136	134	
8700912			83	113	130	162	169	184	183	185	173	166	172	164	164	144	
8700924			74	98	136	125	150	144	151	140	131	139	132	134	129	122	
8700932			72	99	127	140	150	169	157	163	170	163	152	135	143	137	
8700934			80	99	120	135	139	146	151	143	152	153	146	139	145	126	
8700954			57	93	119	127	134	151	148	150	139	148	133	135	135	121	
8700962				73	94	112	126	127	127	136	134	133	140	145	139	134	
8700976					76	107	131	146	153	156	140	167	170	151		140	
MEAN	71.0	80.9	91.4	106.3	120.7	128.5	133.0	144.9	142.2	143.6	138.5	140.9	139.5	133.4	133.2	124.4	
S.D.	12.0	19.6	17.6	12.6	15.4	13.0	22.1	16.1	15.2	15.6	15.7	15.3	14.4	12.2	12.4	10.1	
N	4	9	17	18	19	19	18	19	19	19	19	18	19	19	18	19	

87012F1

APPENDIX F-8
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAHS

FEMALE#	CONTROL	GRP 1	0 PPT	DAY OF GESTATION						
				0	7	14	21	28		
8700802	NP									
8700810	DNB									
8700814										
8700822										
8700830										
8700832	NP									
8700838	NP									
8700842	NP									
8700848										
8700858										
8700862										
8700872										
8700876										
8700878										
8700880										
8700916	NP									
8700922	NP									
8700936	NP									
8700938	NP									
8700940										
8700950	DNB									
8700952										
8700956										
8700970										
8700972										
8700978										
MEAN				149.0	158.9	169.5	183.0			
S.D.				11.3	19.8	35.1	0.0			
N				2	17	17	1			

NP=NOT PREGNANT DNB=DID NOT BREED

87012F1

APPENDIX F-8 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

LOW DOSE	GRP 2	1.3 PPT	DAY OF GESTATION				
			0 - 7	7 - 14	14 - 21	21 - 28	
FEWALE#							
8700808			130	125			
8700828			136	162			
8700844			162	144			
8700854		154	169	142			
8700864			162	190			
8700866			143	158			
8700886			174	159			
8700892			145	168			
8700900	APD		142	136			
8700902			180	171			
8700904		138	172	160			
8700908			151	153			
8700914			154	146			
8700926			131	122			
8700928			161	145			
8700942			134	156			
8700948		155	165	172			
8700958	NP		145	178			
8700960			157	160			
8700964							

MEAN
S.D.
N

149.0 153.3 155.1
9.5 15.3 17.3
3 19

NP=NOT PREGNANT APD=ALL PUPS DIED BY DAY 21PP

87012F1

APPENDIX F-8 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

MID DOSE	GRP	3	4	PPT	DAY OF GESTATION						
					0	7	14	21	28		
FEMALE#											
8700804							193	173			
8700806	DNB						162	176			
8700812											
8700818	DNB						159	189			
8700826							162	172			
8700836							167	161			
8700840							148	164			
8700846											
8700850	NP										
8700860	NP										
8700870	DNB										
8700882							117	143			
8700888	NP										
8700890							153	167			
8700906							173	191			
8700910					147		168	162			
8700918							158	162			
8700920							144	146			
8700930							182	183			
8700966					168		185	170			
8700968							185	168			
8700974	NP										
MEAN					157.5		153.7	168.8			
S.D.					14.8		19.3	13.9			
N					2		15	15			

NP=NOT PREGNANT DNB=DID NOT BREED

87012F1

APPENDIX F-8 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION

INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

HIGH DOSE GRP 4 12.7 PPT

DAY OF GESTATION

0 - 7 7 - 14 14 - 21 21 - 28

FEMALE#

8700816	133	144		
8700820	155	166		
8700824	146	140		
8700834	126	152		
8700852	145	142		
8700856	157	151		
8700868	144	142		
8700874	179	163		
8700884	152	179		
8700894	156	167		
8700896	147	139		
8700898	157			
8700912	NP			
8700924	APD	160	152	
8700932	APD	168	157	
8700934	APD	174	158	
8700954	NOPU			
8700962	APD	174	148	
8700976		180	189	

MEAN

144.0 156.1 155.6

S.D.

14.1 15.4 14.4

N

2 17 16

NP=NOT PREGNANT NOPU=PREGNANT, NO PUPS DELIVERED APD=ALL PUPS DIED BY DAY 21pp

87012F1A

APPENDIX F-9
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION; BRED, DID NOT DELIVER
 INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

CONTROL GRP 1 O PPT

FEMALE#	DAY OF GESTATION						
	0	7	7	14	14	21	21 - 28
8700802			153			179	
8700832			178			158	
8700838			182			129	
8700842		150	179			188	
8700916			173			132	
8700936			166			185	
8700938			171			173	
MEAN	150.0	171.7	163.4				
S.D.	0.0	9.9	24.5				
N	1	7	7				

87012F1A

APPENDIX F-9 cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION; BRED, DID NOT DELIVER
INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

LCW DOSE GRP 2 1.3 PPT	DAY OF GESTATION	14 - 21	21 - 28
FEMALE#	0 - 7	7 - 14	
8700958	151	179	
MEAN	151.0	179.0	
S.D.	0.0	0.0	
N	1	1	

87012F1A

APPENDIX F-9 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION; BRED, DID NOT DELIVER
 INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

MID DOSE GRP 3 & PPT

FEMALE#	DAY OF GESTATION			
	0 - 7	7 - 14	14 - 21	21 - 28
8700850		137	137	
8700860	171	183	145	
8700888		154	157	
8700974		167	169	
MEAN	171.0	160.3	152.0	
S.D.	0.0	19.5	14.0	
N	1	4	4	

87012F1A

APPENDIX F-9 cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION; BRED, DID NOT DELIVER
INDIVIDUAL MATERNAL GESTATION FOOD CONSUMPTION -- GRAMS

HIGH DOSE GRP 4 12.7 PPT						
FEMALE#	DAY OF GESTATION					
	0 - 7	7 - 14	14 - 21	21 - 28		
8700912	157	144				
8700954	164	154				
MEAN	160.5	149.0				
S.D.	4.9	7.1				
N	2	2				

87012F1

APPENDIX F-10
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 INDIVIDUAL MATERNAL POSTPARTUM FOOD CONSUMPTION -- GRAMS

CONTROL	GRP 1	0 PPT	DAY OF LACTATION				
FEMALE#		0	7	7	14	14	21
8700814				296			369
8700822		183		198			169
8700830				265			369
8700848				294			362
8700858				292			392
8700862				275			356
8700872				243			353
8700876				240			356
8700878		198		335			367
8700880				188			
8700922				237			369
8700940				204			336
8700952				279			310
8700956				329			353
8700970				241			256
8700972		212		343			421
MEAN		197.7		266.2			342.5
S.D.		14.5		48.0			60.3
N		3		16			15

87012F1

APPENDIX F-10 cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

INDIVIDUAL MATERNAL POSTPARTUM FOOD CONSUMPTION -- GRAMS

LOW DOSE	GRP 2	1.3 PPT	DAY OF LACTATION				
FEMALE#		0 - 7	7 - 14	14 - 21			
8700808			204	301			
8700828	APD						
8700844		133	250	296			
8700854			468	398			
8700864			192	324			
8700866			268	324			
8700886			294	369			
8700892		167	283	300			
8700900	APD						
8700902			199	226			
8700904			285	377			
8700908			244	353			
8700914		194	298	299			
8700926			201	264			
8700928			285	373			
8700942			348	369			
8700948			215	314			
8700960		182	339	416			
8700964		169	272	264			
MEAN		169.0	273.2	327.5			
S.D.		22.9	69.0	52.0			
N		5	17	17			

APD=ALL PUPS DIED BY DAY 21pp

87012F1

APPENDIX F-10 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 INDIVIDUAL MATERNAL POSTPARTUM FOOD CONSUMPTION -- GRAHS

MID DOSE GRP 3 4 PPT	DAY OF LACTATION					
	0	7	7	14	14	21
FEMALE#						
8700804		313			411	
8700812		209			260	
8700826		299			389	
8700836		284			282	
8700840		212			209	
8700846		300			389	
8700882		232			361	
8700890		231			359	
8700906		259			386	
8700910		300			344	
8700918		226			250	
8700920		240			286	
8700930		250			277	
8700944	158	292			382	
8700966		228			201	
8700968		282			382	
MEAN	158.0	259.8			323.0	
S.D.	0.0	35.4			69.7	
N	1	16			16	

87012F1

APPENDIX F-10 cont.

REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

INDIVIDUAL MATERNAL POSTPARTUM FOOD CONSUMPTION -- GRAMS

HIGH DOSE GRP 4 12.7 PPT		DAY OF LACTATION				
		0	7	14	21	
FEHALE#						
8700816	201	410	282			
8700820		205	235			
8700824		187	347			
8700834	208	312	362			
8700852		245	207			
8700856		286	249			
8700868		173	221			
8700874		295	412			
8700884		289	379			
8700894		263	309			
8700896	APD					
8700898		275	374			
8700912	NOPU					
8700924	APD					
8700932	APD					
8700934		420	414			
8700954	NOPU					
8700962	APD	147				
8700976		276	298			

MEAN
S.D.
N

220.0 270.2 314.5
27.1 79.2 72.3
3 14 13

NOPU=PREGNANT, NO PUPS DELIVERED APD=ALL PUPS DIED BY DAY 21PP

Appendix G-1
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

Control Animals

Animal ID	Date(s)	Signs
87D0312	14 Aug 87	Red-stained nose
	19,22,23 Sep 87	" "
	25 Aug-25 Sep 87	Hair loss from limbs
	1-7,15-27 Oct 87	" " " "
	9 Sep 87	Red-stained ear
	9-13,16 Sep 87	Infection, eartag site
	27 Oct 87	Euthanized
87D0318	17,18,24 Aug 87	Red-stained nose
	1,3-7 Sep;1,4,7 Oct 87	" "
	25,29 Sep 87	Orange material, perianal
	27 Oct 87	Euthanized
87D0324	17 Aug 87	Red-stained nose
	2,15,16,20-22,29 Sep 87	" "
	4 Oct 87	" "
	21 Oct 87	Euthanized
87D0328	11 Aug 87	Hyperactive
	14,18,31 Aug 87	Red-stained nose
	1,11-13 Sep;6 Oct 87	" "
	1-8 Sep;21 Oct 87	Hair loss from limbs
	21 Oct 87	Euthanized
87D0330	6,14,18,25 Aug 87	Red-stained nose
	1,8,9,11,13-18,24 Sep 87	" "
	5,16 Oct 87	" "
	21 Oct 87	Euthanized
87D0336	14,17,18,20,23,25 Aug 87	Red-stained nose
	28-30 Aug;1,2,8 Sep 87	" "
	18,22-25,28,30 Sep 87	" "
	4-7,9,15,21,22 Oct 87	" "
	11 Sep-9 Oct;13-27 Oct 87	Hair loss from limbs
	2,3,5,6,8,9, Oct 87	Red-stained eye
	25 Oct 87	Black material on tail
	27 Oct 87	Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

Control Animals

Animal ID	Date(s)	Signs
87D0339	18 Aug;29,30 Sep 87	Red-stained nose
	4 Oct 87	" "
23 Aug-16 Sep;30 Sep-7 Oct 87		Hair loss from limbs
	21 Oct 87	Euthanized
87D0347	11 Aug 87	Increased startle reflex
	11,19 Aug-21 Oct 87	Hair loss from limbs
	23-26,28-30 Aug 87	Red-stained nose
2,19,28,29 Sep;2 Oct 87		" "
	8 Sep 87	Irritable
	21 Oct 87	Euthanized
87D0349	18,24-30 Aug;2 Sep 87	Red-stained nose
	11-13,19,24,28 Sep 87	" "
	1,13,15 Oct 87	" "
	26,27 Aug 87	Red-stained head
	3-5 Sep 87	Orange material, perianal
	25 Sep 87	Diarrhea
	21 Oct 87	Euthanized
87D0353	12,13,28-31 Aug 87	Red-stained nose
	15,16 Sep;20 Oct 87	" "
	20 Aug 87	Irritable
	27 Oct 87	Euthanized
87D0354	12,13,20,25 Aug 87	Red-stained nose
	2,15,16,18-20,24,25,29 Sep 87	" "
	1-3,16,22,23,27 Oct 87	" "
	8-13 Sep 87	Hair loss from limbs
	14 Sep 87	Yellow material, perianal
	27 Oct 87	Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

Control Animals

Animal ID	Date(s)	Signs
87D0356	18 Aug-13 Sep 87	Hair loss from limbs
	28-30 Aug 87	Brown-stained limbs
	2,14,22-25 Sep 87	Red-stained nose
	5,7,26 Oct 87	" "
	27 Oct 87	Euthanized
87D0358	14,17,18,22,25 Aug 87	Red-stained nose
	1,2,11,17,20,22,23 Sep 87	" "
	3-5,7,20 Oct 87	" "
	19-21 Oct 87	Scab on nose
	21 Oct 87	Euthanized
87D0364	17,26,28-31 Aug 87	Red-stained nose
	3-7,14,17,19-21,24,25 Sep 87	" "
	28-30 Sep;3,8,10,19 Oct 87	" "
	19 Aug 87	Brown-stained tail
	22 Aug-17 Oct;26 Oct 87	Hair loss from limbs
	27 Oct 87	Euthanized
87D0368	11,17 Aug 87	Red-stained nose
	8,14,30 Sep;3,7 Oct 87	" "
	25 Sep 87	Yellow material, perianal
	21 Oct 87	Euthanized
87D0371	7,20-22,26,27 Aug 87	Red-stained nose
	4-7,11,14,20,21,25,29 Sep 87	" "
	13 Oct 87	Irritable
	27 Oct 87	Euthanized
87D0373	14-19 Sep;6,8,9 Oct 87	Hair loss from limbs
	17 Sep 87	Red-stained nose
	3 Nov 87	Euthanized
87D0377	6,7,11,12,14,18 Aug 87	Red-stained nose
	20,22-25,31 Aug;7 Sep 87	" "
	20,21,24,25,29 Sep 87	" "
	1,2,7,10,18 Oct 87	" "
	24 Aug 87	Red-stained ear
	17 Sep 87	Aggressive
	20-24 Sep 87	Hair loss from limbs
	18 Oct 87	Increased startle reflex
	3 Nov 87	Euthanized

Appendix G-1 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - MALES

Control Animals

Animal ID	Date(s)	Signs
87D0379	20 Aug;13,20 Oct 87 27 Oct 87	Red-stained nose Euthanized
87D0392	6,17,18,25 Aug 87 2,20,21 Sep 87 3,10,15,19,22 Oct 87 27 Oct 87	Red-stained nose " " " " Euthanized
87D0394	7,14-16,18 Aug 87 1,8,22,23 Sep 87 20,23,28 Oct 87 12,13 Aug 87 4 Nov 87	Red-stained nose " " " " Brown stain, perianal Euthanized
87D0395	10-11,18,21,23,25 Aug 87 24,28 Sep 87 15,19,28 Oct 87 3 Nov 87	Red-stained nose " " " " Euthanized
87D0405	14 Aug;20,21 Sep 87 11-19,30 Sep 87 3 Nov 87	Red-stained nose Hair loss from limbs Yellow material, perianal Euthanized
87D0407	12,13 Aug 87 17,22,26,27 Aug 87 1,18,19,25,30 Sep;13 Oct 87 21 Oct 87 27 Oct 87	Lethargic Red-stained nose " " Diarrhea Euthanized
87D0408	17,18,22,25,29,30 Aug 87 28 Sep;6 Oct 87 27 Oct 87	Red-stained nose " " Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0313	12-14, 18, 26-30 Aug 87	Red-stained nose
	8, 29, 30 Sep 87	" "
	22-23 Sep 87	Red-stained limbs
	21 Oct 87	Euthanized
87D0314	12-14, 18 Aug 87	Red-stained nose
	2, 14 Sep 87	" "
	18 Sep 87	Irritable
	21 Oct 87	Euthanized
87D0317	17, 18, 23-25, 28-30 Aug 87	Red-stained nose
	1, 2, 17, 20, 21 Sep 87	" "
	3, 4, 13 Oct 87	" "
	1 Sep 87	Hyperactive
	28 Sep 87	Increased startle reflex
	21 Oct 87	Euthanized
87D0320	18 Aug; 28 Sep; 4 Oct 87	Red-stained nose
	18 Sep 87	Irritable
	22, 23 Sep; 6 Oct 87	Aggressive
	19, 21 Oct 87	Red-stained eye
	21 Oct 87	Euthanized
87D0323	20, 24 Aug 87	Red-stained nose
	1, 8, 14, 20-23, 25, 29 Sep 87	" "
	2, 4, 6, 19 Oct 87	" "
	21 Oct 87	Euthanized
87D0326	12, 14, 17, 18, 25 Aug 87	Red-stained nose
	28-30 Aug; 2, 8, 11-13, 20 Sep 87	" "
	21, 28 Sep-1 Oct; 8 Oct 87	" "
	5-13 Oct 87	Red-stained eye
	21 Oct 87	Euthanized
87D0329	18, 23, 24, 31 Aug 87	Red-stained nose
	8, 11-13, 15, 16, 28 Sep 87	" "
	6, 24, 26 Oct 87	" "
	31 Aug; 1, 3-9, 22-24 Sep 87	Brown-stained tail
	15-24 Sep 87	Hair loss from limbs
	22-24 Sep 87	Brown stain, perianal
	27 Oct 87	Euthanized

Appendix G-1 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - MALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0331	14,17,25 Aug 87	Red-stained nose
	3-12,24 Sep;26 Oct 87	" "
	9 Sep 87	Red-stained ear
	3 Nov 87	Euthanized
87D0332	31 Aug;9,20,21 Sep 87	Red-stained nose
	4,6,13,23 Oct 87	" "
	2-5 Oct 87	Hair loss from limbs
	27 Oct 87	Euthanized
87D0342	6,12,14,22-24 Aug 87	Red-stained nose
	14-18,20,21,23-25 Sep 87	" "
	5,6,27 Oct 87	" "
	15-19 Sep 87	Hair loss from limbs
	22,23,29 Sep 87	Red-stained eye
	27 Oct 87	Euthanized
87D0346	20-22,25-30 Aug 87	Red-stained nose
	19 Sep;20 Oct 87	" "
	8-14 Sep 87	Hair loss from limbs
	5-8 Oct 87	Brown material on tail
	5 Oct 87	Brown material, haunches
	27 Oct 87	Euthanized
87D0348	7,17,23,26,27 Aug 87	Red-stained nose
	1,8,14,20,28 Sep 87	" "
	20,25 Aug;1,15,16,20,25 Sep 87	Irritable
	1 Oct 87	"
	27 Oct 87	Euthanized
87D0359	14,25,28-30 Aug 87	Red-stained nose
	3 Oct 87	" "
	21 Oct 87	Euthanized
87D0366	22,26 Aug 87	Red-stained nose
	3-7,11-13,15,16,19,22-24 Sep 87	" "
	2,3,5,6,13 Oct 87	" "
	14 Sep 87	Soft stool
	20-25 Sep 87	Hair loss from limbs
	21 Oct 87	Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0374	2-7,20,21,24,28 Sep 87	Red-stained nose
	2,5 Oct 87	" "
	14-17,19-21,24 Sep 87	Hair loss from limbs
	30 Oct 87	Red-stained eye
	3 Nov 87	Euthanized
87D0375	6,7,11,24,25,31 Aug 87	Red-stained nose
	29 Sep;6 Oct 87	" "
	20,21 Sep 87	Red-stained eye
	23 Oct 87	Orange material, perianal
	27 Oct 87	Euthanized
87D0376	26,27 Aug 87	Red-stained nose
	17,23,29 Sep;6 Oct 87	" "
	19 Sep 87	Yellow material, perianal
	25-29 Sep 87	Hair loss from limbs
	27 Oct 87	Euthanized
87D0378	18 Aug;2 Sep;1 Oct 87	Red-stained nose
	29 Sep 87	Aggressive
	8 Oct 87	Red crusty material on ear
	11 Oct 87	Red-stained jaw
	20 Oct 87	Irritable
	27 Oct 87	Euthanized
87D0380	1,11-13,28 Sep 87	Red-stained nose
	23,24 Oct 87	" "
	15-17 Sep 87	Hair loss from limbs
	17 Sep 87	Yellow material, perianal
	19 Sep 87	Brown material, perianal
	15 Oct 87	Tip of tail missing
	27 Oct 87	Euthanized
87D0381	18 Aug 87	Red-stained nose
	3-7,20-23,29 Sep;15 Oct 87	" "
	23-24 Aug 87	Yellow material, perianal
	20-24 Sep 87	Red-stained limbs
	5 Oct 87	Orange material, perianal
	21 Oct 87	Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0390	12,18 Aug 87	Red-stained nose
	9,19,23-25 Sep 87	" "
	9,22 Oct 87	" "
	9 Sep-27 Oct 87	Hair loss from limbs
	27 Oct 87	Euthanized
87D0396	7,11,17,18 Aug 87	Red-stained nose
	2,8,28,29 Sep;3,4 Oct 87	" "
	27 Oct 87	Euthanized
87D0397	10-13,15-17,28-30 Aug 87	Red-stained nose
	28 Sep 87	" "
	2-4,22,26 Oct 87	" "
	12-13 Aug 87	Diarrhea
	12-27 Aug;11-13 Sep 87	Hair loss from limbs
	19 Sep-27 Oct 87	" " " "
	18 Sep 87	Blood on ear
	23-24 Oct 87	Orange material, perianal
87D0406	27 Oct 87	Euthanized
	12,13,15-22,25 Aug 87	Aggressive
	26 Oct 87	"
	19,21,26,28-31 Aug 87	Red-stained nose
	8,9,17,18,24,25,28,29 Sep 87	" "
	3-5,7 Oct 87	" "
	19 Sep 87	Increased startle reflex
	29 Sep-12 Oct 87	Hair loss from limbs
	27 Oct 87	Euthanized
87D00411	12-16,28-30 Aug 87	Yellow material, perianal
	18,25,28-30 Aug 87	Red-stained nose
	1,8,24,28 Sep;7,16 Oct 87	" "
	19,25,29 Sep;1,5,6,20 Oct 87	Red-stained eye
	29 Sep 87	Aggressive
	1 Oct 87	Increased blinking of eye
	21 Oct 87	Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D00311	14,20 Aug;6 Oct 87 22,23 Sep 87 21 Oct 87	Red-stained nose Orange material, perianal Euthanized
87D00315	10,14,18,23,26 Aug 87 27 Aug;2,8,11-14,29 Sep 87 1-3 Oct 87 18-30 Aug;30 Sep-4 Oct 87 9 Sep 87 27 Oct 87	Red-stained nose " " " " Hair loss from limbs Red-stained ear Euthanized
87D0316	18 Aug;8,20 Sep 87 17-21 Sep 87 20 Oct 87 21 Oct 87	Red-stained nose Hair loss from limbs Yellow material, perianal Euthanized
87D0319	12,13,18 Aug 87 26 Aug-1 Sep;9,18,29 Sep 87 11,18 Oct 87 19 Aug 87 31 Aug-8 Sep 87 9 Oct 87 21 Oct 87	Red-stained nose " " " " Yellow material, perianal Hair loss from limb Red-stained eye Euthanized
87D0322	17,18,20,21,25 Aug 87 1,8,14,17,22,23,28 Sep 87 6,8,13-15 Oct 87 19-25,28,29 Sep 87 21 Oct 87	Red-stained nose " " " " Hair loss from limbs Euthanized
87D0325	17,18,25,28-30 Aug 87 1,2,8,11-13,15,16,18,20-23 Sep 87 6 Oct 87 20,21 Sep 87 21 Oct 87	Red-stained nose " " " " Red-stained head; Blood on ear Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0333	6,14,17,18,24 Aug 87	Red-stained nose
	28-30 Aug;2,11-13,22,23,29 Sep 87	" "
	4,6,8,21 Oct 87	" "
	19 Aug 87	Brown-stained tail
	25-26 Oct 87	Brown-stained limbs
	26 Oct 87	Orange material, perianal
	26,27 Oct 87	Hair loss from limbs
	27 Oct 87	Euthanized
87D0338	17,26 Aug;8,24 Sep 87	Red-stained nose
	21 Oct 87	Euthanized
87D0341	11,19,23-25 Aug 87	Red-stained nose
	31 Aug-1 Sep;9,24 Sep 87	" "
	4,6,13 Oct 87	" "
	27 Oct 87	Euthanized
87D0350	6,7,11,17,24-31 Aug 87	Red-stained nose
	2-8,11-14,18,22-25,28 Sep 87	" "
	2,7,13,21,26 Oct 87	" "
	8-14 Sep 87	Hair loss from limbs
	27 Oct 87	Euthanized
87D0355	14,18 Aug 87	Red-stained nose
	19,25,28 Sep 87	" "
	2,6,7,19,21 Oct 87	" "
	11 Sep-27 Oct 87	Hair loss from limbs
	25 Sep;25,26 Oct 87	Red-stained eye
	19 Oct 87	Diarrhea
	27 Oct 87	Euthanized
87D0361	18 Aug-27 Oct 87	Hair loss from limbs
	25,27-30 Aug 87	Red-stained nose
	14,19,24,25,28,29 Sep 87	" "
	1,15,16 Sep 87	Irritable
	3-5,19,20,22,23,25,27 Sep 87	Red-stained eye
	1,2,5,8,9,19,26 Oct 87	" "
	17 Sep 87	Increased startle reflex
	27 Oct 87	Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0362	23 Aug; 3-8 Sep 87	Red-stained nose
	19, 22-24 Sep; 3, 26 Oct 87	" "
	3 Nov 87	Euthanized
87D0365	7, 17-19, 22 Aug 87	Red-stained nose
	24, 25, 29, 30 Aug 87	" "
	2, 11-16, 19, 25, 28, 29 Sep 87	" "
	2-6, 13, 19 Oct 87	" "
	10 Aug 87	Blood around ear
	11-13 Sep 87	Brown-stained limbs
	14 Sep 87	Soft stool
	25, 30 Sep; 1, 5, 26 Oct 87	Red-stained eye
	25 Sep 87	Hair loss from limbs
	25 Sep; 7 Oct 87	Yellow material, perianal
	29 Sep 87	Red-stained head
	1 Oct 87	Increased blinking of eye
87D0367	3 Nov 87	Euthanized
	11, 17, 18, 26-30 Aug 87	Red-stained nose
	1, 3-7, 17, 20, 21, 24, 25, 28 Sep 87	" "
	1-3, 6, 15, 21, 22, 24, 27-29 Oct 87	" "
	18 Aug-3 Nov 87	Hair loss from limbs
	3-7 Sep 87	Red-stained ear
87D0370	3 Nov 87	Euthanized
	23-24 Aug 87	Brown stain, perianal
	25 Aug; 1, 22-24 Sep; 4 Oct 87	Red-stained nose
	25 Sep 87	Circling in cage
87D0384	3 Nov 87	Euthanized
	21, 24, 28-30 Aug 87	Red-stained nose
	7, 28 Sep; 4, 6, 8, 10, 26 Oct 87	" "
	7-11 Oct 87	Hair loss from limbs
	30 Oct 87	Brown-stained tail
87D0386	3 Nov 87	Euthanized
	6, 7, 12, 18, 20, 22 Aug 87	Red-stained nose
	27, 31 Aug; 3-9, 15, 16, 20-25 Sep 87	" "
	2-6, 20, 23, 24 Oct 87	" "
	18-29 Sep; 2-4, 20, 29 Oct 87	Red-stained eye

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0389	23 Aug; 8, 11 Sep 87	Red-stained nose
	15, 16, 19, 22, 23, 29 Sep 87	" "
	5, 7, 13, 26 Oct; 6 Nov 87	" "
	12 Nov 87	Euthanized
87D0391	17, 18 Aug; 6 Oct 87	Red-stained nose
	20, 21 Sep 87	Yellow material, perianal
	27 Oct 87	Euthanized
87D0398	7, 10 Aug 87	Red-stained nose
	1, 2, 8, 11, 17, 28 Sep 87	" "
	4, 6, 18, 23, 24 Oct 87	" "
	17 Aug-27 Oct 87	Hair loss from limbs
	17 Aug-1 Sep 87	Brown-stained limbs
	9, 11, 14-25, 28-30 Sep 87	" "
	2, 6, 7, 9-15 Oct 87	" "
	22, 25, 27 Aug 87	Yellow material, perianal
	19-25 Sep; 29 Sep-2 Oct 87	Brown-stained body
	6, 7, 9, 16, 19 Oct 87	" "
87D0399	27 Oct 87	Euthanized
	10-14, 17, 18, 22-24 Aug 87	Red-stained nose
	26 Aug-1 Sep 87	" "
	3-8, 14, 25-28 Sep 87	" "
	1, 4, 6, 7, 13, 21, 26 Oct 87	" "
	14-21 Sep 87	Hair loss from limbs
	27 Oct 87	Euthanized
87D0401	6, 10-14, 16 Aug 87	Red-stained nose
	18, 20, 22, 23, 25, 26 Aug 87	" "
	2, 15-18, 24 Sep 87	" "
	4, 6, 13 Oct 87	" "
	3-7, 17, 18 Sep 87	Hair loss from limbs
	15-18 Sep 87	Irritable
	27 Oct 87	Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0409	11,13,18,25,27 Aug 87	Red-stained nose
	22-24,28 Sep 87	" "
	6,13 Oct 87	" "
	18 Aug-27 Oct 87	Hair loss from limbs
	27 Oct 87	Euthanized
87D0410	12-16,22,26,27 Aug 87	Red-stained nose
	8,11-13,28 Sep 87	" "
	4 Oct 87	" "
	29 Sep-4 Oct; 6,9 Oct 87	Hair loss from limbs
	3 Nov 87	Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0321	8 Sep; 2, 3, 5, 23 Oct 87 27 Oct 87	Red-stained nose Euthanized
87D0327	17 Aug 87 22, 24 Aug 87 8 Sep; 3, 13, 15, 22, 23 Oct 87 24 Sep; 1, 2 Oct 87 27 Oct 87	Increased startle reflex Blood on ear Red-stained nose Hair loss from limbs Euthanized
87D0334	10, 17, 25 Aug 87 8, 14-17, 22-24 Sep 87 4, 5, 7, 8, 15, 19, 22-24 Oct 87 6, 7 Oct 87 27 Oct 87	Red-stained nose " " " " Hair loss from limbs Euthanized
87D0335	14, 17, 18 Aug 87 11-13, 22, 23, 25 Sep 87 6 Oct 87 5, 7-9 Oct 87 13 Oct 87 21 Oct 87	Red-stained nose " " " " Red-stained eye Aggressive Euthanized
87D0337	12, 13, 22, 28-30 Aug 87 8, 11-13, 24 Sep 87 5, 15, 16 Oct 87 2 Oct 87 19-21 Oct 87 21 Oct 87	Red-stained nose " " " " Hair loss from limbs Red-stained eye Euthanized
87D0340	11, 22, 25 Aug 87 3-7, 19, 29 Sep; 1, 13 Oct 87 21 Oct 87	Red-stained nose " " Euthanized
87D0343	12, 17, 18 Aug 87 3-11, 15, 16 Sep 87 4, 13, 20 Oct 87 21 Oct 87	Red-stained nose " " " " Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0344	12,14,17-21,23-27 Aug 87	Red-stained nose
	3-7,9-14,18,20,21 Sep 87	" "
	1,2,4-6 Oct 87	" "
	6 Oct 87	Red-stained eye
	21 Oct 87	Euthanized
87D0345	29 Sep;20 Oct 87	Red-stained eye
	20 Oct 87	Red-stained nose
	21 Oct 87	Euthanized
87D0352	7,10-13,18,20 Aug 87	Red-stained nose
	24-27 Aug 87	" "
	1-7,9-14,16,24,28 Sep 87	" "
	1,5-8,15,19,22,23 Oct 87	" "
	24,26,27 Aug 87	Blood on ear
	9 Sep-27 Oct 87	Hair loss from limbs
	27 Oct 87	Euthanized
87D0357	12-14,19-21,25 Aug 87	Red-stained nose
	28-30 Aug 87	" "
	1,2,8,11-14,17,18,20,22-24 Sep 87	" "
	29,30 Sep 87	" "
	3-6,19 Oct 87	" "
	2-9 Sep 87	Hair loss from limbs
	27 Oct 87	Euthanized
87D0360	18,22,23,25,28-30 Aug 87	Red-stained nose
	1,3-7,11,15-17,20,21,28,29 Sep 87	" "
	4 Oct 87	" "
	21 Oct 87	Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0363	12,13,17,30,31 Aug 87	Red-stained nose
	11-17,19 Sep 87	" "
	3 Oct 87	" "
	31 Aug-17 Sep 87	Hair loss from limbs
	21 Oct 87	Euthanized
87D0372	24,25,28-30 Aug 87	Red-stained nose
	1,2,22-24,29 Sep 87	" "
	2,6 Oct 87	" "
	27 Oct 87	Euthanized
87D0382	23 Aug;2-8,24 Sep 87	Red-stained nose
	2,7,15,20 Oct 87	" "
	31 Oct;1 Nov 87	" "
	7 Oct 87	Hair loss from limbs
	3 Nov 87	Euthanized
87D0383	6,14,17,18 Aug 87	Red-stained nose
	20-25,28-30 Aug 87	" "
	9,15,16,19,25 Sep 87	" "
	1,3,10,11 Oct 87	" "
	20-24 Sep 87	Hair loss from limbs
	25 Sep 87	Red-stained eye
	29 Sep 87	Red-stain near ear
87D0385	27 Oct 87	Euthanized
	6,10,14,18,22,25 Aug 87	Red-stained nose
	1,2,11,15-25 Sep 87	" "
	2,4-7,10,23,24 Oct 87	" "
	29 Sep 87	Red-stained ear
	2 Oct 87	Orange material, perianal
	27 Oct 87	Euthanized
87D0387	14,22 Aug 87	Red-stained nose
	1,2,15,16,22,23,25,29 Sep 87	" "
	3,6,14,15,20,23 Oct 87	" "
	27 Oct 87	Euthanized

Appendix G-1 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - MALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0388	12,13,18,22,28-30 Aug 87	Red-stained nose
	1,3-8,17,19,24,25 Sep 87	" "
	2,4,7,9,14,20,22-24 Oct 87	" "
	14,18 Aug 87	Red-stained ear
	26 Oct 87	Orange material, perianal
	27 Oct 87	Euthanized
87D0393	17,18,25-27,31 Aug 87	Red-stained nose
	2,24 Sep;3,4,15,18,23,24 Oct 87	" "
	14-18 Sep 87	Hair loss from limbs
	27 Oct 87	Euthanized
87D0400	19-27 Aug 87	Hair loss from limbs
	25,31 Aug 87	Red-stained nose
	2,11-13,22,23 Sep 87	" "
	30 Sep-4 Oct 87	" "
	3 Nov 87	Euthanized
87D0402	28-30 Aug 87	Red-stained nose
	1,7,8,15,16,24,25,28,29 Sep 87	" "
	1,15,16,19,20,23,26 Oct 87	" "
	3-13 Sep;7,13-15 Oct 87	Hair loss from limbs
	25 Sep;13,14 Oct 87	Red-stained eye
87D0403	27 Oct 87	Euthanized
	7,17 Aug 87	Red-stained nose
	1 Sep 87	" "
	22-28 Sep;9 Oct 87	Hair loss from limbs
	19 Sep 87	Increased startle reflex
87D0404	29 Sep 87	Irritable
	27 Oct 87	Euthanized
	11,14,17,18,23 Aug 87	Red-stained nose
	28 Aug-8 Sep 87	" "
	14,19,28 Sep 87	" "
87D0404	6 Oct 87	" "
	18 Aug-29 Sep;5-7 Oct 87	Hair loss from limbs
	14 Oct 87	Aggressive
	27 Oct 87	Euthanized

Appendix G-2
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0413	7,10,11,17 Aug 87	Red-stained neck
	25 Oct;2,3 Nov 87	" "
	17,18 Aug;15-17,19 Sep 87	Red-stained ear
	1,23-25,27-29 Oct 87	" "
	28,29 Aug;23,24 Sep 87	Red-stained nose
	1,5,6 Oct 87	" "
	28,29 Sep 87	Rough coat
	30 Sep 87	Paired with 87D0312
	7 Oct 87	Removed from 87D0312;
		Paired with 87D0373
	14 Oct 87	Removed from 87D0373;
		Paired with 87D0328
	15 Oct 87	Sperm positive
	12 Nov 87	Did not give birth; Euthanized
87D0421	19,21,25,31 Aug 87	Red-stained nose
	8,14,19,28 Sep 87	" "
	10,18,27,28 Oct;5,6 Nov 87	" "
	25 Sep;8 Oct 87	Red-stained eye
	30 Sep 87	Paired with 87D0318
	7 Oct 87	Removed from 87D0318;
		Paired with 87D0377
	14 Oct 87	Removed from 87D0377;
		Paired with 87D0330
	19 Oct 87	Sperm positive
87D0425	10 Nov 87	Gave birth
	11,12 Nov 87	Red-stained tail
	2 Dec 87	Euthanized
87D0425	19,22,25,28-30 Aug 87	Red-stained nose
	3-7,17,18,23,28 Sep 87	" "
	6,9,23,26,27 Oct 87	" "
	1,4,11,12,14,15 Nov 87	" "
	1 Oct 87	Paired with 87D0324
	3 Oct 87	Sperm positive
	26 Oct 87	Gave birth
	26,27 Oct 87	Red-stained tail
	19 Nov 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0430	19,21 Aug 87	Red-stained nose
	2,16,20 Sep;3,6,14,27 Oct 87	" "
	1 Oct 87	Paired with 87D0328
	2 Oct 87	Sperm positive
	24 Oct 87	Gave birth
	16 Nov 87	Euthanized
87D0431	10,14,17,20,25,31 Aug 87	Red-stained nose
	8,9 Sep;6,20,27-30 Oct 87	" "
	2-5,11,12 Nov 87	" "
	3-8,20-29 Sep;2 Oct 87	Hair loss from limbs
	27 Oct-18 Nov 87	" " " "
	16 Sep 87	Red-stained eye
	2 Oct 87	Paired with 87D0330
	3 Oct 87	Sperm positive
	26 Oct 87	Gave birth
	27 Oct-1 Nov 87	Red-stained tail
	19 Nov 87	Euthanized
87D0437	11,13,26,27 Aug 87	Red-stained nose
	2,9,28,30 Sep 87	" "
	20,26 Oct;14 Nov 87	" "
	23 Sep 87	Red-stained eye
	2 Oct 87	Paired with 87D0336
	3 Oct 87	Sperm positive
	25 Oct 87	Gave birth
	26-29 Oct 87	Red-stained tail
	16 Nov 87	Euthanized
87D0440	31 Aug 87	Red-stained nose
	20-22,30 Sep;3,13,16 Oct 87	" "
	15 Sep 87	Hair loss from limbs
	2 Oct 87	Paired with 87D0339
	3 Oct 87	Blood on vaginal swab
	5 Oct 87	Sperm positive
	29 Oct 87	Did not give birth; Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0442	10 Aug;29 Sep 87	Increased startle reflex
	11 Aug;16 Sep;5,20 Oct 87	Red-stained nose
	14,16,17 Nov 87	" "
	29 Sep 87	Jumping in cage
	3 Oct 87	Paired with 87D0347
	6 Oct 87	Sperm positive
	28 Oct 87	Gave birth
	29,30 Oct 87	Red-stained tail
	19 Nov 87	Euthanized
87D0445	7,19,22 Aug 87	Red-stained nose
	28-31 Aug 87	" "
	11-13,15,29 Sep 87	" "
	2,15,21,26-28 Oct 87	" "
	30 Oct-1 Nov;9 Nov 87	" "
	19 Sep 87	Red-stained eye
	3 Oct 87	Paired with 87D0349
	7 Oct 87	Sperm positive
	28 Oct 87	Gave birth
	29-31 Oct 87	Red-stained tail
	19 Nov 87	Euthanized
87D0446	12,13 Aug 87	Red-stained neck
	31 Aug;2 Sep-3 Dec 87	Hair loss from limbs
	23,24 Sep;20 Oct 87	Red-stained nose
	3 Oct 87	Paired with 87D0353
	10 Oct 87	Removed from 87D0353;
		Paired with 87D0405
	17 Oct 87	Removed from 87D0405;
		Paired with 87D0371
	21 Oct 87	Sperm positive
	12 Nov 87	Gave birth
	14 Nov 87	Red-stained tail
	4 Dec 87	Euthanized

Appendix G-2 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0447	6, 10, 14, 17 Aug 87	Red-stained nose
	22, 25-27 Aug 87	" "
9, 23 Sep; 5, 19, 28, 30, 31 Oct 87	14-19 Nov 87	" "
	11-13 Sep 87	Yellow material, perianal
	4 Oct 87	Paired with 87D0354
	5 Oct 87	Clear material, eye
	7 Oct 87	Sperm positive
	29 Oct 87	Gave birth
	20 Nov 87	Euthanized
87D0460	14, 16, 19, 23, 25, 26 Aug 87	Red-stained nose
1, 3-8 Sep; 3, 5, 6, 8, 9, 27 Oct 87	25 Sep; 2, 6, 7, 19 Oct 87	" "
	4 Oct 87	Red-stained eye
	5 Oct 87	Paired with 87D0356
	11 Oct 87	Bite on hindquarters
	18 Oct 87	Removed from 87D0356;
		Paired with 87D0408
		Removed from 87D0408;
		Paired with 87D0392
	21 Oct 87	Increased tearing, eye
	25 Oct 87	Removed from 87D0392
	28 Oct 87	Euthanized
87D0461	20, 21 Aug 87	Red-stained nose
	15, 17, 18, 28 Sep 87	" "
10, 20, 26, 28 Oct; 6, 7, 16 Nov 87	17 Sep; 6, 7 Oct 87	" "
	4 Oct 87	Red-stained eye
	7 Oct 87	Paired with 87D0358
	29 Oct 87	Sperm positive
	30 Oct-4 Nov 87	Gave birth
	2 Nov 87	Red-stained tail
	20 Nov 87	Red stain, perianal
		Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0465	10 Aug 87	Red-stained head;
		Brown-stained tail
	17,20,25-27 Aug 87	Red-stained nose
	2,8,9,11-14,16,20-22 Sep 87	" "
	5,8,18,22,25 Oct 87	" "
	31 Aug-8 Sep;1,2,5 Oct 87	Hair loss from limbs
	5 Oct 87	Paired with 87D0364
	12 Oct 87	Removed from 87D0364;
		Paired with 87D0318
	13 Oct 87	Listing to right side;
		Swollen left shoulder
	16-20 Oct 87	Not bearing weight, right foreleg
	19 Oct 87	Removed from 87D0318;
		Paired with 87D0379
87D0470	26 Oct 87	Removed from 87D0379;
		Euthanized
	14,24 Aug 87	Red-stained nose
	1,2,9,15,21-24 Sep 87	" "
	3,6,20,21,26,28 Oct 87	" "
	6 Oct 87	Paired with 87D0368
	7 Oct 87	Sperm positive;
		Clear material, eye
	3 Nov 87	Did not give birth;
		Euthanized
87D0472	6,7,12,13 Aug 87	Red-stained nose
	25,28-30 Aug 87	" "
	2,8,9,18,23,28,30 Sep 87	" "
	1,21,23,24,28,30 Oct 87	" "
	3,6,9,10,14,16,18,19 Nov 87	" "
	11 Sep 87	Dehydrated
	2-4 Oct 87	Hair loss from limbs
	6 Oct 87	Paired with 87D0371
	7 Oct 87	Sperm positive
	29 Oct 87	Gave birth
	30 Oct 87	Red-stained tail
	20 Nov 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0479	17,25 Aug 87	Red-stained nose
	2,11,26,27,31 Oct 87	" "
	2,8-10,14,16,17 Nov 87	" "
	7 Oct 87	Paired with 87D0379
	8 Oct 87	Sperm positive
	30 Oct 87	Gave birth
	30,31 Oct 87	Red-stained tail
	25 Nov 87	Euthanized
87D0484	10-16,19 Aug 87	Red-stained nose
	23-27,29,30 Aug 87	" "
	15,23,25,26,28 Sep 87	" "
	5,9 Oct;16,19 Nov 87	" "
	8 Oct 87	Paired with 87D0392
	9 Oct 87	Sperm positive
	31 Oct 87	Gave birth
	1 Nov 87	Red-stained tail; Hyperactive
	25 Nov 87	Euthanized
87D0496	10,12-16,19 Aug 87	Red-stained nose
	25,29-31 Aug 87	" "
	2-7,15,19,25 Sep 87	" "
	21,25,27,30,31 Oct 87	" "
	18 Aug-24 Nov 87	Hair loss from limbs
	9 Oct 87	Paired with 87D0394
	11 Oct 87	Sperm positive
	2 Nov 87	Gave birth
	3-9 Nov 87	Red-stained tail
	25 Nov 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0498	9,12,13,17 Aug 87	Red-stained nose
	19-24,26-30 Aug 87	" "
	3-7,9,11-13,16 Sep 87	" "
	18,19,24,28 Sep-4 Oct 87	" "
	6,16-19,21,27,29 Oct 87	" "
	31 Oct-4 Nov;12,13 Nov 87	" "
	1,13 Oct 87	Brown-stained body
	9 Oct 87	Paired with 87D0395
	12 Oct 87	Sperm positive
	3 Nov 87	Gave birth
	4 Nov 87	Red-stained tail
	25 Nov 87	Euthanized
87D0507	7,12,13,19 Aug 87	Red-stained nose
	22,27,30 Aug 87	" "
	1,24 Sep;1,7 Oct 87	" "
	18 Aug-24 Nov 87	Hair loss from limbs
	10 Oct 87	Paired with 87D0407
	12 Oct 87	Sperm positive
	3 Nov 87	Gave birth
	25 Nov 87	Euthanized
87D0509	6,7,11-17 Aug 87	Red-stained nose
	19,20,23,25,26,31 Aug 87	" "
	1,2,8,14,17,19-24,30 Sep 87	" "
	1,3,4,6-8 Oct 87	" "
	10-12,21,23-28,30 Oct 87	" "
	1-4,6 Nov 87	" "
	18 Aug-24 Nov 87	Hair loss from limbs
	3-8,14 Sep;8-14 Oct 87	Brown-stained body
	29 Oct-24 Nov 87	" "
	11 Oct 87	Paired with 87D0312
	12 Oct 87	Sperm positive
	3 Nov 87	Gave birth
	25 Nov87	Euthanized

Appendix G-2 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0512	12-17 Aug 87	Red-stained ear
	14-17, 22, 24-26 Aug 87	Red-stained nose
	31 Aug-2 Sep; 9, 16, 17 Sep 87	" "
	20, 30 Sep; 2, 15, 16, 28 Oct 87	" "
	30 Oct-1 Nov; 4, 5, 8, 9 Nov 87	" "
	24 Aug-13 Oct 87	Infection, eartag site
	13 Oct 87	Paired with 87D0353
	17 Oct 87	Sperm positive
	8 Nov 87	Gave birth
	9, 10 Nov 87	Red-stained tail
	30 Nov 87	Euthanized
87D0520	14-16, 31 Aug 87	Red-stained nose
	30 Sep; 16 Oct 87	" "
	11-13 Sep 87	Crusty material, eartag
	14 Sep-13 Dec 87	Hair loss from limbs
	13 Oct 87	Paired with 87D0356
	20 Oct 87	Removed from 87D0356;
		Paired with 87D0318
	27 Oct 87	Removed from 87D0318;
		Paired with 87D0373
	30 Oct 87	Sperm positive
87D0523	29 Jul 87	Dehydrated
	10, 12-16, 26, 27 Aug 87	Red-stained nose
	3-7, 9, 15 Sep; 31 Oct; 4, 7 Nov 87	" "
	17 Sep 87	Red-stained ear
	19 Sep 87	Red-stain mouth
	13 Oct 87	Paired with 87D0324
	20 Oct 87	Removed from 87D0324;
		Paired with 87D0408
	27 Oct 87	Removed from 87D0408;
		Paired with 87D0377
	30 Oct 87	Sperm positive
	21 Nov 87	Gave birth
	25 Nov-13 Dec 87	Hair loss from flank
	14 Dec 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0525	29 Jul 87	Dehydrated
	12,16-18 Aug 87	Increased startle reflex
	12-17,19,21,31 Aug;8 Sep 87	Red-stained nose
	6,9,19 Oct;12,28-30 Nov 87	" "
	31 Aug-8 Sep;11-14 Sep 87	Infection, eartag site
	14 Oct 87	Paired with 87D0364
	21 Oct 87	Removed from 87D0364;
		Paired with 87D0405
	28 Oct 87	Removed from 87D0405;
		Paired with 87D0394
	3 Nov 87	Sperm positive
	25 Nov 87	Gave birth
	17 Dec 87	Euthanized
87D0535	2-4,6,16 Oct 87	Red-stained nose
	6 Nov 87	" "
	14 Oct 87	Paired with 87D0336
	21 Oct 87	Removed from 87D0336;
		Paired with 87D0364
	25 Oct 87	Sperm positive
87D0541	11-15,17,22 Aug 87	Red-stained nose
	26-31 Aug;15,20-22,28 Sep 87	" "
	1,2,6,14,16,28 Oct;4 Nov 87	" "
	17 Aug 87	Red-stained eye
	14 Oct 87	Paired with 87D0339
	15 Oct 87	Sperm positive
	12 Nov 87	Did not give birth;
87D0542		Euthanized
	20-22,26-31 Aug 87	Red-stained nose
	2,20-22,24,28 Sep 87	" "
	6,21,23,27 Oct;5,9 Nov 87	" "
	14 Oct 87	Paired with 87D0347
	17 Oct 87	Sperm positive
	8 Nov 87	Gave birth
	9-11 Nov 87	Red-stained tail
	24 Nov 87	Diarrhea
	30 Nov 87	Euthanized

Appendix G-2 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0545	11,17,20,21,26,27 Aug 87	Red-stained nose
	1,3-7,9,11-14,17,23 Sep 87	" "
	25,28-30 Sep;6-8,10 Oct 87	" "
	14,15,19,20,22,26,27,29-31 Oct 87	" "
	1-10,14,16,17 Nov 87	" "
	15 Oct 87	Paired with 87D0373
	16 Oct 87	Sperm positive
	7 Nov 87	Gave birth;
		Red-stained ear
	7-8 Nov 87	Red-stained tail
	30 Nov 87	Euthanized
87D0546	12,13,17 Aug 87	Red-stained nose
	25 Sep;27 Oct;8 Nov 87	" "
	3-8 Sep 87	Hair loss from limbs
	15 Oct 87	Paired with 87D0377
	16 Oct 87	Sperm positive
	8 Nov 87	Gave birth
	30 Nov 87	Euthanized
87D0548	14,17,19 Aug 87	Red-stained nose
	2,24,30 Sep 87	" "
	5-7,9,20,26,27 Oct;4 Nov 87	" "
	15 Oct 87	Paired with 87D0349
	16 Oct 87	Sperm positive
	12 Nov 87	Did not give birth;
		Euthanized
87D0550	6,11-17,19 Aug 87	Red-stained nose
	26-30 Aug;8,9,21,22 Sep 87	" "
	3,4,6,7,23-25 Oct 87	" "
	19 Aug 87	Hyperactive
	22 Aug 87	Red-stained eye
	16 Oct 87	Paired with 87D0358
	19 Oct 87	Sperm positive
	10 Nov 87	Gave birth
	11,12 Nov 87	Red-stained tail
	2 Dec 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0551	6,12,14,17 Aug 87	Red-stained nose
	9 Sep;3 Oct 87	" "
	16 Oct 87	Paired with 87D0368
	17 Oct 87	Sperm positive
	8 Nov 87	Gave birth
	9,10 Nov 87	Red-stained tail
	30 Nov 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0412	22,25-30 Aug 87	Red-stained nose
	1,2,8,19,28-30 Sep 87	" "
	16,19 Oct 87	" "
	16 Sep 87	Brown material, perianal
	30 Sep 87	Paired with 87D0313
	6 Oct 87	Sperm positive
	27-30 Oct 87	Hair loss from limbs
	30 Oct 87	Did not give birth;
		Euthanized
87D0424	6-8,17 Sep 87	Red-stained nose
	7,21 Oct;8 Nov 87	" "
	30 Sep 87	Paired with 87D0314
	3 Oct 87	Sperm positive
	25 Oct 87	Gave birth
	26 Oct 87	Red material on eye
	27 Oct 87	Red-stained tail
	10 Nov 87	Head injured in feeder
	10-15 Nov 87	Red-stained muzzle;
		Swollen right eye;
87D0433		Red-stained fore limbs;
	16 Nov 87	Not bearing weight on leg
		Euthanized
	18 Aug-26 Oct 87	Hair loss from limbs
	2,8 Sep;29 Sep-1 Oct 87	Red-stained nose
	6,19,23,24 Oct 87	" "
	30 Sep 87	Paired with 87D0317
	1 Oct 87	Sperm positive
	26 Oct 87	Did not give birth;
		Euthanized
87D0438	24,25,30 Sep 87	Red-stained nose
	1,25,26 Oct 87	" "
	30 Sep 87	Paired with 87D0320
	2 Oct 87	Sperm positive
	14,16,21-24 Oct 87	Brown-stained body
	26 Oct 87	Red-stained tail;
		Gave birth;
		All pups dead;
		Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0441	14,20,21 Aug 87	Red-stained nose
	14,17,19,20,23,28,29 Sep 87	" "
	1,20,25 Oct 87	" "
	17,18 Sep 87	Hair loss from limbs
	1 Oct 87	Paired with 87D0323
	2 Oct 87	Sperm positive
	9,16-18,20,24,25 Oct 87	Aggressive
	27 Oct 87	Did not give birth;
		Euthanized
87D0448	7,10,12,13 Aug 87	Red-stained nose
	19 Sep 87	Irritable
	1 Oct 87	Red-stained eye;
		Paired with 87D0326
	8 Oct 87	Removed from 87D0326;
		Paired with 87D0390
	15 Oct 87	Sperm positive
	6 Nov 87	Gave birth
	7 Nov 87	Red vaginal discharge
87D0449	7-16 Nov 87	Red-stained tail
	30 Nov 87	Euthanized
	12,13,19 Aug 87	Red-stained nose
	17 Sep;1,18-20,27,29 Oct 87	" "
	14-16 Aug;19 Aug-1 Sep 87	Hair loss from limbs
	6-9 Nov 87	" " " "
	29 Sep 87	Red-stained eye
	2 Oct 87	Paired with 87D0329
	9 Oct 87	Removed from 87D0329;
		Paired with 87D0396
	16 Oct 87	Removed from 87D0396;
		Paired with 87D0359
	18 Oct 87	Sperm positive
	9 Nov 87	Gave birth
	10 Nov 87	Red-stained tail
	1 Dec 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0452	10,11,17 Aug 87	Red-stained nose
	20-22,25-27 Aug;1,19 Sep 87	" "
	23,25,30 Sep;27 Oct 87	" "
	2 Oct 87	Paired with 87D0331
	9 Oct 87	Removed from 87D0331; Paired with 87D0397
	10 Oct 87	Sperm positive
	1 Nov 87	Gave birth
	3 Nov 87	Hyperactive
	25 Nov 87	Euthanized
87D0454	11-13,17 Aug 87	Red-stained nose
	3-7 Sep;26 Oct 87	" "
	2 Oct 87	Paired with 87D0332
	3 Oct 87	Sperm positive
	28 Oct 87	Did not give birth; Euthanized
87D0457	11 Aug;23 Sep 87	Red-stained nose
	1,2,4,16,19 Oct 87	" "
	2 Oct 87	Paired with 87D0362
	3 Oct 87	Sperm positive
	26 Oct 87	Gave birth
	27-28 Oct 87	Red-stained tail
	28 Oct 87	All pups dead; Euthanized
87D0462	11-13,19,21 Aug 87	Red-stained nose
	15,30 Sep;15,18,31 Oct 87	" "
	5 Nov 87	" "
	3 Oct 87	Paired with 87D0346
	8 Oct 87	Red-stained eye
	10 Oct 87	Removed from 87D0346; Paired with 87D0406
	17 Oct 87	Removed from 87D0406; Paired with 87D0381
	19 Oct 87	Sperm positive
	11 Nov 87	Gave birth
	13 Nov 87	All pups dead; Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0463	19,22,25-27 Aug 87	Red-stained nose
	3-7,16,17,19,20,23 Sep 87	" "
	13 Oct;1,4 Nov 87	" "
	9 Sep 87	Red-stained ear
	3 Oct 87	Paired with 87D0348
	4 Oct 87	Sperm positive
	26 Oct 87	Gave birth
	27-28 Oct 87	Red-stained tail
	19 Nov 87	Euthanized
87D0464	12,13,17,19-22 Aug 87	Red-stained nose
	24-27,31 Aug;1,11,16,19 Sep 87	" "
	2,9,10,13-16,20,23 Oct 87	" "
	30 Oct-1 Nov;6,9,10 Nov 87	" "
	16,17 Nov 87	" "
	29 Sep 87	Red-stained eye
	4 Oct 87	Paired with 87D0359
	7 Oct 87	Sperm positive
	29 Oct 87	Gave birth
	30 Oct 87	Red-stained tail
	20 Nov 87	Euthanized
87D0468	6,12-17,22 Aug 87	Red-stained nose
	2,11-15,17,29,30 Sep 87	" "
	2,4,26,28 Oct 87	" "
	6 Oct 87	Paired with 87D0366
	8 Oct 87	Sperm positive
	3 Nov 87	Did not give birth; Euthanized
87D0473	12,23,25,26 Aug 87	Red-stained nose
	2,8,16,20,23,24,30 Sep 87	" "
	8,16,20,26,28 Oct;2 Nov 87	" "
	2 Oct 87	Red-stained eye
	7 Oct 87	Paired with 87D0374
	10 Oct 87	Sperm positive
	1 Nov 87	Gave birth
	2 Nov 87	Red-stained tail
	25 Nov 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0475	17,18,25-27,31 Aug 87	Red-stained nose
	5-7,9,11-13,15,23,29 Sep 87	" "
	7,13,22,31 Oct 87	" "
	28 Aug-24 Nov 87	Hair loss from limbs
	29,30 Sep;2 Oct 87	Red-stained eye
	7 Oct 87	Paired with 87D0375
	8 Oct 87	Sperm positive
	30 Oct 87	Gave birth
	31 Oct-3 Nov 87	Red-stained tail
	25 Nov 87	Euthanized
87D0476	14,17,19,25 Aug 87	Red-stained nose
	20,21,23 Sep 87	" "
	6,19,26,28 Oct 87	" "
	18 Aug-6 Dec 87	Hair loss from limbs
	19 Aug 87	Red-stained eye
	7 Oct 87	Paired with 87D0376
	14 Oct 87	Removed from 87D0376
		Paired with 87D0332
	21 Oct 87	Removed from 87D0332;
		Paired with 87D0329
	24 Oct 87	Sperm positive
87D0487	15 Nov 87	Gave birth
	7 Dec 87	Euthanized
	12,13,19 Aug 87	Red-stained nose
	21,22,26,27 Aug 87	" "
	8,14,15,19,21,22,24 Sep 87	" "
	28,30 Sep;7,16,18,26 Oct 87	" "
	14 Sep 87	Red-stained head
	7 Oct 87	Paired with 87D0378
	14 Oct 87	Removed from 87D0378;
		Paired with 87D0342
	21 Oct 87	Removed from 87D0342;
		Paired with 87D0331
	28 Oct 87	Removed from 87D0331
		Euthanized

Appendix G-2 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0488	14,23,26,27 Aug 87	Red-stained nose
	8,17,22 Sep;6,9,26 Oct 87	" "
	4,5,12 Nov;1,2,7,8 Dec 87	" "
	7 Oct 87	Paired with 87D0380
	14 Oct 87	Removed from 87D0380;
		Paired with 87D0348
	21 Oct 87	Removed from 87D0348;
		Paired with 87D0346
	27 Oct 87	Sperm positive
	18 Nov 87	Gave birth
	19 Nov 87	Red-stained tail
87D0491	1 Dec 87	Red-stained head
	10 Dec 87	Euthanized
	12,17,24 Aug 87	Red-stained nose
	28-30 Aug 87	" "
	2-7,9,11-13,18-24 Sep 87	" "
	1,5,8,9,13,23,26,27,30 Oct 87	" "
87D0492	7 Oct 87	Paired with 87D0381
	8 Oct 87	Sperm positive
	3 Nov 87	Did not give birth;
		Euthanized
87D0492	11,19,25,31 Aug 87	Red-stained nose
	2,9 Sep;1 Nov 87	" "
	11 Oct 87	Paired with 87D0411
	18 Oct 87	Removed from 87D0411;
		Paired with 87D0397
	25 Oct 87	Removed from 87D0397;
		Paired with 87D0374
	1 Nov 87	Removed from 87D0374
	3 Nov 87	Euthanized

Appendix G-2 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0495	6,12-14,20,25 Aug 87	Red-stained nose
	1,3-7,11-13,15,28 Sep 87	" "
	1,19,27,31 Oct;6 Nov 87	" "
	11-13,15,19,29 Sep;21 Oct 87	Red-stained eye
	12 Oct 87	Paired with 87D0326
	19 Oct 87	Removed from 87D0326;
		Paired with 87D0406
	22 Oct 87	Sperm positive
	8 Nov 87	Hair loss from limbs
	13 Nov 87	Gave birth
	14,15 Nov 87	Red-stained tail
	7 Dec 87	Euthanized
87D0499	12 Aug 87	Red-stained head
	12,13,25 Aug;3-8 Sep 87	Red-stained nose
	2,19 Oct 87	" "
	18 Aug-29 Nov 87	Hair loss from limbs
	12 Oct 87	Paired with 87D0329
	15 Oct 87	Red-stained eye;
		Sperm positive
	6 Nov 87	Gave birth
	7 Nov 87	Red vaginal discharge
	7,8 Nov 87	Red-stained tail
87D0501	30 Nov 87	Euthanized
	11-13,31 Aug 87	Red-stained nose
	28,30 Sep;3,6,7,11,31 Oct 87	" "
	3,10 Nov 87	" "
	26 Aug-2 Oct;5 Oct-26 Nov 87	Hair loss from limbs
	6 Oct 87	Red-stained eye
	12 Oct 87	Paired with 87D0331
	13 Oct 87	Sperm positive
	5 Nov 87	Gave birth
	27 Nov 87	Euthanized

Appendix G-2 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0502	14,17,22-24 Aug 87	Red-stained nose
	5-8,16 Sep;4,6,12,19,22 Oct 87	" "
	26,28,29,31 Oct;4,5,7 Nov 87	" "
	30 Sep 87	Red-stained eye
	13 Oct 87	Paired with 87D0313
	16 Oct 87	Sperm positive
	25 Oct 87	Increased startle reflex
	7 Nov 87	Gave birth
	8-10 Nov 87	Red-stained tail
	30 Nov 87	Euthanized
87D0518	10,14-16 Aug 87	Red-stained neck
	10-16,20,21,26,27 Aug;2 Sep 87	Red-stained nose
	3,14,18,21,28,29,31 Oct;1 Nov 87	" "
	8 Sep-26 Nov 87	Hair loss from limbs
	17 Sep;29 Oct;8 Nov 87	Red-stained ear
	18-22 Sep 87	Infection, eartag site
	6 Oct 87	Red-stained eye
	13 Oct 87	Paired with 87D0314
	14 Oct 87	Sperm positive
	4 Nov 87	Gave birth
	5-8 Nov 87	Red-stained tail
	27 Nov 87	Euthanized
87D0519	14,20,26,27,31 Aug 87	Red-stained nose
	24 Sep 87	" "
	15 Sep 87	Red-stained ear;
		Increased startle reflex
	8 Oct 87	Debris in eye
	13 Oct 87	Paired with 87D0317
	14 Oct 87	Sperm positive
	6 Nov 87	In labor at 1500 hours
	8 Nov 87	Prolonged labor;
		Gave birth;
		All pups dead
	12 Nov 87	Euthanized

Appendix G-2 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0522	29 Jul 87	Dehydrated
	11-16,20-30 Aug 87	Red-stained nose
	1,3-7,17,29 Sep 87	" "
	6,20,29 Oct;6 Nov 87	" "
	12,13,15,16 Aug 87	Aggressive
	28-30 Aug 87	Soft stool
	13 Oct 87	Paired with 87D0320
	14 Oct 87	Sperm positive
	5 Nov 87	Gave birth
	6 Nov 87	Red-stained tail
	27 Nov 87	Euthanized
87D0529	14-18,20,21 Aug 87	Red-stained nose
	8,9,16 Sep;15 Oct 87	" "
	11-14 Sep 87	Infection, eartag site
	16,23 Sep;10 Oct 87	Red-stained eye
	13 Oct 87	Paired with 87D0323
	14 Oct 87	Sperm positive
	5 Nov 87	Gave birth
	8 Nov 87	All pups dead
	12 Nov 87	Euthanized
87D0531	11,12,17,20 Aug 87	Red-stained nose
	1,9,17,24,28 Sep 87	" "
	6,8,22,26-28 Oct;5,7,10 Nov 87	" "
	13 Oct 87	Paired with 87D0346
	14 Oct 87	Bite on abdomen
	17 Oct 87	Sperm positive
	5,7,8,10-29 Nov 87	Hair loss from limbs
	8 Nov 87	Gave birth
	30 Nov 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0533	6,7,11-17 Aug 87	Red-stained eye
	19-22,25-31 Aug 87	" "
	9,11-14,16-18,23-25 Sep 87	" "
	28 Sep-9 Oct;11,12,15 Oct 87	" "
	26 Oct;6,10,19-30 Nov 87	" "
	6-10,20,22,25-29,31 Aug 87	Squinting eye
	1,3-7,14-18,28 Sep 87	" "
	12 Aug;7,15,16,19,26,27,31 Oct 87	Red-stained nose
	20 Aug 87	Increased blinking reflex
	22-25 Aug 87	Swelling below eye
	25 Aug 87	Head shaking
	11-14 Sep 87	Crusty material, eartag
	15 Sep-30 Nov 87	Hair loss from limbs
	15 Oct 87	Paired with 87D0376
	18 Oct 87	Sperm positive
	9 Nov 87	Gave birth
	1 Dec 87	Euthanized
87D0534	10-13,17,19 Aug 87	Red-stained nose
	20,26,27,31 Aug 87	" "
	1-7,11-13,16,19,21,23,24,28 Sep 87	" "
	1,2,9,19,20,26,27,29,30 Oct 87	" "
	4,5,7,14 Nov 87	" "
	9,14,15,17-19,24,25 Sep 87	Hair loss from limbs
	15 Oct 87	Paired with 87D0378
	17 Oct 87	Sperm positive
	8 Nov 87	Gave birth
	9-11 Nov 87	Red-stained tail
87D0536	30 Nov 87	Euthanized
	7,31 Aug 87	Red-stained nose
	1,3-8,15,16,18,23,30 Sep 87	" "
	1-4,6,7,16 Oct 87	" "
	20,22,26,28,29 Oct 87	" "
	14-16 Nov 87	" "
	15 Oct 87	Paired with 87D0380
	16 Oct 87	Sperm positive
	7 Nov 87	Gave birth
	8 Nov 87	Red-stained tail
	30 Nov 87	Euthanized

Appendix G-2 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0544	10,11,17 Aug 87	Red-stained nose
	22,26,27 Aug 87	" "
	25 Sep;7,26 Oct;5 Nov 87	" "
	16 Oct 87	Paired with 87D0366
	18 Oct 87	Red-stained eye; Sperm positive
	9 Nov 87	Gave birth
	10 Nov 87	Red-stained tail
	24 Nov 87	All pups dead
	25 Nov 87	Euthanized
87D0549	17,24 Aug;3-7 Sep 87	Red-stained nose
	21,22 Sep;15,22 Oct 87	" "
	3-7 Sep 87	Red-stained ear
	16 Oct 87	Paired with 87D0396
	18 Oct 87	Sperm positive
	23-24 Oct 87	Hair loss from limbs
	9 Nov 87	Gave birth
	10 Nov 87	Red-stained tail
	1 Dec 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0415	14 Aug;15,17 Sep 87	Red-stained nose
	30 Sep-2 Oct;5,6 Oct 87	" "
	25 Sep 87	Red-stained eye
	30 Sep 87	Paired with 87D0311
	1 Oct 87	Sperm positive
	26 Oct 87	Did not give birth; Euthanized
87D0417	12 Aug 87	Red-stained nose
	16,23,24,28,29 Sep 87	" "
	15,23,26-28 Oct 87	" "
	30 Oct-1 Nov;4 Nov 87	" "
	30 Sep 87	Paired with 87D0315
	7 Oct 87	Removed from 87D0315; Paired with 87D0384
	14 Oct 87	Removed from 87D0384; Paired with 87D0325
	17 Oct 87	Sperm positive
	8 Nov 87	Gave birth
	30 Nov 87	Euthanized
87D0420	7,12-14,17 Aug 87	Red-stained nose
	19-29 Aug;31 Aug-9 Sep 87	" "
	11-15,17-19,21-23 Sep 87	" "
	30 Sep-2 Oct;6,16 Oct 87	" "
	20-26,29-31 Oct 87	" "
	2-4,6,7,14,15 Nov 87	" "
	19 Aug-15 Nov 87	Hair loss from limbs
	30 Sep 87	Paired with 87D0316
	3 Oct 87	Sperm positive
	25 Oct 87	Gave birth
	26,27,30 Oct 87	Red-stained tail
	16 Nov 87	Euthanized
87D0422	10 Aug;1-8 Sep 87	Red-stained nose
	14,15,23-25,29 Sep 87	" "
	3,4,23,25 Oct 87	" "
	30 Sep 87	Paired with 87D0319
	1 Oct 87	Sperm positive
	23 Oct 87	Gave birth
	24 Oct 87	All pups dead
	25 Oct 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0427	22 Aug;1,8,17 Sep 87	Red-stained nose
	10,20 Oct 87	" "
	1 Oct 87	Paired with 87D0322
	4 Oct 87	Sperm positive
	26 Oct 87	Gave birth
	27-30 Oct;1 Nov 87	Red-stained tail
	31 Oct 87	Soft stool
	19 Nov 87	Euthanized
87D0432	12,28-31 Aug 87	Red-stained nose
	2-7,14,20 Sep;3,6,13 Oct 87	" "
	16,17,20,21,23,25 Oct 87	" "
	11,12 Nov 87	" "
	19 Aug;28 Aug-7 Sep 87	Red-stained ear
	14,19,20 Sep;2 Oct 87	" "
	1 Oct 87	Paired with 87D0325
	2 Oct 87	Sperm positive
	24 Oct 87	Gave birth
	27 Oct 87	Red-stained tail
	16 Nov 87	Euthanized
87D0435	12,13,19 Aug 87	Red-stained nose
	15-17,19 Sep 87	" "
	1,13,16,17,27,28 Oct 87	" "
	2 Oct 87	Paired with 87D0333
	4 Oct 87	Sperm positive
	26 Oct 87	Gave birth
	19 Nov 87	Euthanized
87D0436	22 Aug 87	Red-stained nose
	17,28,30 Sep;2,21 Oct 87	" "
	2 Oct 87	Paired with 87D0338
	3 Oct 87	Sperm positive
	28 Oct 87	Did not give birth; Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0443	11-17 Aug 87	Red-stained nose
	20,26,27 Aug 87	" "
	1,8,14,15,20,28 Sep 87	" "
	2,13,21,26 Oct 87	" "
	2,3,6 Nov 87	" "
	2 Oct 87	Paired with 87D0341
	3 Oct 87	Sperm positive;
		Bite on tail
	25 Oct 87	Gave birth
	26,28,29 Oct 87	Red-stained tail
	16 Nov 87	Euthanized
87D0444	19,22 Aug 87	Red-stained nose
	1,8,23 Sep;4,5,7,16,23 Oct 87	" "
	23 Sep 87	Red-stained eye
	3 Oct 87	Paired with 87D0350
	9 Oct 87	Sperm positive
	3 Nov 87	Did not give birth; Euthanized
87D0453	1,16,24,25,28 Sep 87	Red-stained nose
	5,6,13,21,28 Oct 87	" "
	4 Oct 87	Paired with 87D0355
	6 Oct 87	Sperm positive
	21 Oct 87	Increased startle reflex
	30 Oct 87	Did not give birth; Euthanized
87D0455	12,13,19,26 Aug 87	Red-stained nose
	28 Aug-1 Sep;23,24,28 Sep 87	" "
	7,20,21,26 Oct 87	" "
	5 Oct 87	Paired with 87D0361
	6 Oct 87	Sperm positive
	25 Oct 87	Increased startle reflex
	30 Oct 87	Did not give birth; Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0456	12,13 Aug;1 Oct 87	Red-stained nose
	14,15 Nov 87	" "
	25 Sep 87	Hair loss from limbs
	5 Oct 87	Paired with 87D0362
	6 Oct 87	Sperm positive
	28 Oct 87	Gave birth
	1-14 Nov 87	Red-stained tail
	19 Nov 87	Euthanized
87D0459	10,12,14 Aug 87	Red-stained nose
	17,22-24,26-30 Aug 87	" "
	1,2,14,16,17,20-25,28,29 Sep 87	" "
	1-3,6,7,10,15-24,26 Oct 87	" "
	30,31 Oct;7-9,11-13 Nov 87	" "
	16-19 Nov 87	" "
	22 Aug;25 Sep;1 Oct 87	Red-stained eye
	6 Oct 87	Paired with 87D0365
	7 Oct 87	Sperm positive
	11,12,14 Oct;22 Oct-19 Nov 87	Hair loss from limbs
	25 Oct 87	Aggressive
	29 Oct 87	Gave birth
	20 Nov 87	Euthanized
87D0466	14,17,23,25 Aug 87	Red-stained nose
	3-9,14,15,23,24,28,29 Sep 87	" "
	1-3,6,7,13,21,23,26,31 Oct 87	" "
	2,3,9,11,12,16 Nov 87	" "
	6 Oct 87	Paired with 87D0367
	8 Oct 87	Sperm positive
	29-30 Oct 87	Red-stained eye
	30 Oct 87	Gave birth
	31 Oct-1 Nov 87	Red-stained tail
	25 Nov 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0469	11-16, 19, 20 Aug 87	Red-stained nose
	22-24, 28-31 Aug; 2-7, 9 Sep 87	" "
	11-13, 15, 17-26, 28 Sep 87	" "
	30 Sep-1 Oct; 8, 10, 12 Oct 87	" "
	14-17, 23, 28 Oct 87	" "
	9, 11, 14 Nov 87	" "
	6 Oct 87	Paired with 87D0370
	7 Oct 87	Sperm positive
	29 Oct 87	Gave birth
	30 Oct-11 Nov 87	Red-stained tail
	20 Nov 87	Euthanized
87D0471	10, 12 Aug 87	Red-stained nose
	14-16, 22-25 Aug 87	" "
	2, 9, 15, 19, 21-23, 28 Sep 87	" "
	30 Sep-1 Oct; 3-5, 7 Oct 87	" "
	15-17, 19, 21, 26, 27, 29, 31 Oct 87	" "
	25, 26 Nov 87	" "
	8 Oct 87	Paired with 87D0386
	13 Oct 87	Sperm positive
	4 Nov 87	Gave birth
	27 Nov 87	Euthanized
87D0478	14, 15, 19 Aug 87	Red-stained nose
	28-31 Aug; 2, 4-7, 11-13, 30 Sep 87	" "
	22, 26, 29, 30 Oct 87	" "
	1, 2, 6, 10-13, 16 Nov 87	" "
	18 Aug-13 Nov; 16-24 Nov 87	Hair loss from limbs
	8 Oct 87	Paired with 87D0389
	9 Oct 87	Sperm positive
	31 Oct 87	Gave birth
	1-6 Nov 87	Red-stained tail
	25 Nov. 87	Euthanized
87D0480	22 Aug 87	Red-stained nose
	2, 22, 23 Sep; 6, 7 Nov 87	" "
	8 Oct 87	Paired with 87D0391
	13 Oct 87	Sperm positive
	5 Nov 87	Gave birth
	5-7 Nov 87	Red-stained tail
	27 Nov 87	Euthanized

Appendix G-2 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0486	6, 7, 9-12 Aug 87	Red-stained nose
	14-18, 20, 22 Aug 87	" "
	28 Aug-2 Sep; 8, 9 Sep 87	" "
	14-16, 24, 28-30 Sep 87	" "
	6, 8, 9, 16, 29, 31 Oct 87	" "
	18, 20-22 Aug; 19 Sep 87	Red-stained eye
	10, 14, 20, 31 Oct 87	" "
	19 Aug-5 Nov 87	Hair loss from limbs
	9 Oct 87	Paired with 87D0398
	12 Oct 87	Sperm positive
	5 Nov 87	Did not give birth;
		Euthanized
87D0489	14-16, 20, 21 Aug 87	Red-stained nose
	22, 24, 29, 30 Sep; 28 Oct 87	" "
	2 Sep-3 Nov 87	Hair loss from limbs
	9 Oct 87	Paired with 87D0399
	10 Oct 87	Sperm positive
	3 Nov 87	Did not give birth;
		Euthanized
87D0490	12, 19, 22 Aug 87	Red-stained nose
	1, 21, 22, 24, 29 Sep 87	" "
	7, 8, 19-21, 23, 26-28, 31 Oct 87	" "
	9 Oct 87	Paired with 87D0401
	11 Oct 87	Sperm positive
	2 Nov 87	Gave birth
	3, 6-8 Nov 87	Red-stained tail
	25 Nov 87	Euthanized
87D0493	11-13, 26, 27 Aug 87	Red-stained nose
	2, 17, 29 Sep 87	" "
	3, 8, 13, 16, 20, 27-29, 31 Oct 87	" "
	2, 4 Nov 87	" "
	29 Sep; 1 Oct 87	Red-stained eye
	11 Oct 87	Paired with 87D0409
	12 Oct 87	Sperm positive
	19-26 Oct 87	Red-stained neck
	5 Nov 87	Did not give birth;
		Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0494	7,11,26,27 Aug 87	Red-stained nose
	19,26,29 Oct 87	" "
	11 Oct 87	Paired with 87D0410
	14 Oct 87	Sperm positive
	5 Nov 87	Gave birth
	6-18 Nov 87	Red-stained tail
	27 Nov 87	Euthanized
87D0508	11-13,15 Aug 87	Red-stained nose
	17,20,21,25-27,31 Aug 87	" "
	1,22,29 Sep;2,4,6,8 Oct 87	" "
	11,18 Nov;4-6,8 Dec 87	" "
	12 Oct 87	Paired with 87D0315
	19 Oct 87	Removed from 87D0315;
		Paired with 87D0361
	26 Oct 87	Removed from 87D0361;
		Paired with 87D0365
	28 Oct 87	Sperm positive
	29 Oct 87	Red-stained eye
87D0511	11-16,26,27 Aug 87	Red-stained nose
	6,21 Oct;4 Nov 87	" "
	13 Oct 87	Paired with 87D0311
	15 Oct 87	Sperm positive
	16 Oct 87	Red-stained eye
	6 Nov 87	Gave birth
	7-8 Nov 87	Red-stained tail
87D0515	30 Nov 87	Euthanized
	6,14-17,19 Aug 87	Red-stained nose
	23-30 Aug;15,16,19,23 Sep 87	" "
	7,8 Oct;10,17,18 Nov 87	" "
	11-15 Sep 87	Crusty material, eartag
	13 Oct 87	Paired with 87D0316
	16 Oct 87	Sperm positive
	7 Nov 87	Gave birth
	8-13 Nov 87	Red-stained tail
	30 Nov 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0516	14 Aug; 9, 23-25 Sep 87	Red-stained nose
	21, 28, 31 Oct; 4, 5 Nov 87	" "
	17-18 Sep; 26 Oct 87	Hair loss from limbs
	13 Oct 87	Paired with 87D0319
	16 Oct 87	Sperm positive
	7 Nov 87	Gave birth
	8, 10, 11 Nov 87	Red-stained tail
	10 Nov 87	All pups dead
	12 Nov 87	Euthanized
87D0524	29 Jul 87	Dehydrated
	17 Aug; 22 Sep 87	Red-stained nose
	31 Aug-21 Oct; 23-25, 27, 28 Oct 87	Infection at eartag site
	30, 31 Oct; 1, 3-13, 17-24 Nov 87	" " " "
	13 Oct 87	Paired with 87D0322
	20 Oct 87	Removed from 87D0322;
		Paired with 87D0315
	23, 26, 29 Oct; 6 Nov 87	Red-stained eye
	27 Oct 87	Removed from 87D0315;
		Paired with 87D0410
	29 Oct 87	Sperm positive
	2, 6, 9 Nov 87	Bloody ear
	19-24 Nov 87	Hair loss from throat
	25 Nov 87	Did not give birth;
		Euthanized
87D0526	29 Jul 87	Dehydrated
	12, 13, 19, 22, 25 Aug 87	Red-stained nose
	15, 16, 28 Sep 87	" "
	15, 21, 27, 30 Oct 87	" "
	19 Aug 87	Hyperactive
	14 Oct 87	Paired with 87D0338
	18 Oct 87	Sperm positive
	9 Nov 87	Gave birth
	1 Dec 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0527	29 Jul 87	Dehydrated
	25, 28-30 Aug; 14, 30 Sep 87	Red-stained nose
	11, 12, 14, 15, 22, 26, 27 Oct 87	" "
	5, 10 Nov; 2, 9 Dec 87	" "
	26 Aug-10 Dec 87	Hair loss from limbs
	14 Oct 87	Paired with 87D0333
	21 Oct 87	Removed from 87D0333;
		Paired with 87D0362
	28 Oct 87	Sperm positive
	19 Nov 87	Gave birth
	11 Dec 87	Euthanized
87D0537	10, 19-21, 23 Aug 87	Red-stained nose
	1, 3-7, 15, 24, 30 Sep 87	" "
	15 Oct; 4, 10 Nov 87	" "
	23 Sep; 2, 15 Oct; 6, 7 Nov 87	Red-stained eye
	15 Oct 87	Paired with 87D0384
	17 Oct 87	Sperm positive
	8 Nov 87	Gave birth
	9-16 Nov 87	Red-stained tail
	30 Nov 87	Euthanized
87D0543	11-13 Aug; 3-8 Sep 87	Red-stained nose
	18, 21-23 Sep; 8, 16, 19, 21 Oct 87	" "
	24, 28 Oct; 2, 3, 5, 6, 28 Nov 87	" "
	14 Dec 87	" "
	30 Sep-1 Oct; 14, 20 Oct 87	Red-stained eye
	16 Oct 87	Paired with 87D0350
	23 Oct 87	Removed from 87D0350;
		Paired with 87D0367
	30 Oct 87	Removed from 87D0367;
		Paired with 87D0386
	1 Nov 87	Sperm positive
	23 Nov 87	Gave birth
	15 Dec 87	Euthanized

Appendix G-2 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0547	10,25,27,30 Aug 87	Red-stained nose
	3-7 Sep;3,4,24 Oct 87	" "
	19-23,25-27 Sep;8 Nov 87	Red-stained eye
	16 Oct 87	Paired with 87D0355
	17 Oct 87	Presumed date of breeding, sperm not detected in vaginal smear
	23 Oct 87	Removed from 87D0355; Paired with 87D0370
	30 Oct 87	Removed from 87D0370; Paired with 87D0389
	6 Nov 87	Removed from 87D0389
	7 Nov 87	Gave birth
	8 Nov 87	Red-stained tail
	30 Nov 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0414	10 Aug 87	Brown material, foot
	10,14 Aug 87	Brown-stained tail
	10,19,21,23,28-30 Aug 87	Red-stained nose
	11-13,17,20,28,30 Sep 87	" "
	1,3,5,8,10,15,17 Oct 87	" "
	1-3,5,6 Nov 87	" "
	25 Sep-2 Dec 87	Hair loss from limbs
	1 Oct 87	Paired with 87D0321
	8 Oct 87	Removed from 87D0321;
		Paired with 87D0383
	15 Oct 87	Removed from 87D0383;
		Paired with 87D0352
	21 Oct 87	Sperm positive
	11 Nov 87	Gave birth
	3 Dec 87	Euthanized
87D0416	14,31 Aug 87	Red-stained nose
	3-7,28 Sep;6 Oct 87	" "
	16-17,19,20,25 Sep 87	Red-stained ear
	1 Oct 87	Paired with 87D0327
	5 Oct 87	Sperm positive
	29 Oct 87	Did not give birth;
		Euthanized
87D0418	10,12,13,19 Aug 87	Red-stained nose
	23,28-30 Aug 87	" "
	11-14,16,17,19-25,28-30 Sep 87	" "
	2,5,7-10,16-22 Oct 87	" "
	15-25 Sep 87	Hair loss from limbs
	2 Oct 87	Paired with 87D0334
	5 Oct 87	Red-stained eye
	9 Oct 87	Removed from 87D0334;
		Paired with 87D0400
	16 Oct 87	Removed from 87D0400;
		Paired with 87D0357
	23 Oct 87	Removed from 87D0357
		Euthanized

Appendix G-2 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0419	8,17-19,28,29 Sep 87	Red-stained nose
	2,3 Oct 87	" "
	2 Oct 87	Paired with 87D0335
	5 Oct 87	Sperm positive
	29 Oct 87	Did not give birth; Euthanized
87D0423	25,28-30 Aug 87	Red-stained nose
	10 Sep;9,20,26 Oct 87	" "
	2 Oct 87	Paired with 87D0337
	3 Oct 87	Sperm positive
	28 Oct 87	Did not give birth; Euthanized
87D0426	12,19,25-27 Aug 87	Red-stained nose
	1,6,7,17,19,20,25,28 Sep 87	" "
	3,4,6,11,14-17 Oct 87	" "
	19 Oct-2 Nov;4,6 Nov 87	" "
	2 Oct 87	Paired with 87D0340
	4 Oct 87	Sperm positive
	26 Oct 87	Gave birth
	27-30 Oct;1-4 Nov 87	Red-stained tail
87D0429	19 Nov 87	Euthanized
	20 Sep 87	Dehydrated
	3 Oct 87	Paired with 87D0343
	4 Oct 87	Sperm positive
	21 Oct 87	Red-stained nose
	26 Oct 87	Gave birth
	27 Oct-2 Nov 87	Red-stained tail
	19 Nov 87	Euthanized
87D0434	19,22 Aug;11-13,30 Sep 87	Red-stained nose
	14-24 Sep;30 Sep-10 Oct 87	Hair loss from limbs
	17 Oct-18 Nov 87	" " " "
	19 Sep 87	Red-stained eye
	3 Oct 87	Paired with 87D0344
	4 Oct 87	Sperm positive
	26 Oct 87	Gave birth
	19 Nov 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0439	19,22 Aug;18,19 Sep 87	Red-stained nose
	17-19 Sep 87	Hair loss from limbs
	3 Oct 87	Paired with 87D0345
	5 Oct 87	Sperm positive
	29 Oct 87	Did not give birth; Euthanized
87D0450	14,16,26-30 Aug 87	Red-stained nose
	18,20-23,28,30 Sep 87	" "
	5,6,9,16,19,21-23 Oct 87	" "
	25-27,29-31 Oct;11-18 Nov 87	" "
	9 Sep 87	Red-stained ear
	17-28 Sep;1,2,5-15 Oct 87	Hair loss from limbs
	18 Oct-18 Nov 87	" " " "
	3 Oct 87	Paired with 87D0352
	6 Oct 87	Sperm positive
	28 Oct 87	Gave birth
	28 Oct-4 Nov 87	Red-stained tail
	19 Nov 87	Euthanized
87D0451	7,22,23 Aug 87	Red-stained nose
	1,18 Sep;2,5 Oct 87	" "
	4 Oct 87	Paired with 87D0357
	5 Oct 87	Sperm positive
	29 Oct 87	Did not give birth; Euthanized
87D0458	19 Aug;18 Sep 87	Red-stained nose
	20-24,29 Sep;5,7,22,26 Oct 87	" "
	2-25 Sep 87	Hair loss from limbs
	17 Sep 87	Increased startle reflex; Jumping in cage
	5 Oct 87	Paired with 87D0360
	6 Oct 87	Sperm positive
	30 Oct 87	Did not give birth; Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0467	14-17, 19 Aug 87	Red-stained nose
	22-24 Aug; 28 Aug-1 Sep 87	" "
	3-7, 9-13, 15, 16, 19-23 Sep 87	" "
	28, 30 Sep; 5, 6, 11, 13 Oct 87	" "
	16, 19-23 Oct; 26 Oct-5 Nov 87	" "
	9, 14 Nov 87	" "
	14-22 Sep 87	Hair loss from limbs
	23 Sep; 6, 7 Oct 87	Red-stained eye
	5 Oct 87	Paired with 87D0363
	8 Oct 87	Sperm positive
	22 Oct; 31 Oct-3 Nov 87	Red-stained tail
	30 Oct 87	Gave birth
	25 Nov 87	Euthanized
87D0477	11-13, 21, 23, 25 Aug 87	Red-stained nose
	11-13, 15, 19, 23, 25 Sep 87	" "
	13, 23, 31 Oct 87	" "
	18 Sep 87	Increased startle reflex
	6 Oct 87	Paired with 87D0372
	8 Oct 87	Sperm positive
	28 Oct-24 Nov 87	Hair loss from limbs
	30 Oct 87	Gave birth
	31 Oct-4 Nov 87	Red-stained tail
	25 Nov-87	Euthanized
87D0481	11, 12, 14, 19-21 Aug 87	Red-stained nose
	8, 16, 17, 19-24 Sep 87	" "
	30 Oct; 3 Nov 87	" "
	20, 21 Aug; 6, 14 Oct 87	Red-stained eye
	23, 30 Sep 87	Red-stained forelimb
	7 Oct 87	Paired with 87D0382
	8 Oct 87	Sperm positive
	3 Nov 87	Did not give birth; Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0482	6, 7, 10-16 Aug 87	Red-stained nose
	22, 24, 28-31 Aug; 1 Sep 87	" "
	8, 15, 17, 28, 29 Sep; 6, 7, 9 Oct 87	" "
	18, 21, 27 Oct 87	" "
	8 Oct 87	Paired with 87D0385
	9 Oct 87	Sperm positive
	3 Nov 87	Did not give birth; Euthanized
87D0485	6, 10, 22 Aug 87	Red-stained nose
	2, 8, 9, 17, 18 Sep; 6, 16, 27 Oct 87	" "
	8 Oct 87	Paired with 87D0387
	11 Oct 87	Sperm positive
	4 Nov 87	Did not give birth; Euthanized
87D0497	6, 20, 22 Aug 87	Red-stained nose
	28, 29 Aug; 31 Aug-9 Sep 87	" "
	15-17, 23, 24, 30 Sep 87	" "
	2, 6-8, 11, 13, 21, 27, 28 Oct 87	" "
	16-19 Sep; 16-18 Oct 87	Hair loss from limbs
	27, 28, 30 Oct 87	" " " "
	8 Oct 87	Paired with 87D0388
	9 Oct 87	Sperm positive
	3 Nov 87	Did not give birth; Euthanized
87D0500	6, 12-16 Aug 87	Red-stained nose
	31 Aug-1 Sep; 9, 16, 17 Sep 87	" "
	1, 13, 21-24, 26, 28 Oct 87	" "
	19-21 Sep; 29 Oct-24 Nov 87	Hair loss from limbs
	8 Oct 87	Paired with 87D0393
	9 Oct 87	Sperm positive
	21-22 Oct 87	Brown-stained body
	1 Nov 87	Gave birth
	25 Nov 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0503	11-13, 19 Aug 87	Red-stained nose
	28-30 Aug; 9, 11-13, 25-28 Sep 87	" "
	8, 9, 15, 19 Oct 87	" "
	7, 8, 11, 12 Nov; 7 Dec 87	" "
	19-24 Aug 87	Brown-stained limbs
	9 Sep 87	Red-stained ear;
		Red-stained tail
	15-17 Sep 87	Brown-stained body
	9 Oct 87	Paired with 87D0402
	16 Oct 87	Removed from 87D0402;
		Paired with 87D0400
	23 Oct 87	Removed from 87D0400;
		Paired with 87D0372
	26 Oct 87	Sperm positive
	17 Nov 87	Gave birth
	9 Dec 87	Euthanized
87D0504	10 Aug; 18 Sep 87	Red-stained nose
	10 Oct 87	Paired with 87D0403
	13 Oct 87	Sperm positive
	30 Oct-26 Nov 87	Hair loss from limbs
	4 Nov 87	Gave birth
	5-11 Nov 87	Red-stained tail
	27 Nov 87	Euthanized
87D0505	12, 13, 17 Aug 87	Red-stained nose
	19, 20, 22, 25 Aug 87	" "
	1, 3-8, 15, 17, 20, 23, 25 Sep 87	" "
	6-8, 11, 14, 16, 19, 21 Oct 87	" "
	23, 26-28, 30, 31 Oct 87	" "
	1, 2, 14, 16 Nov 87	" "
	16-18 Sep 87	Hair loss from limbs
	10 Oct 87	Paired with 87D0404
	11 Oct 87	Sperm positive
	2 Nov 87	Gave birth
	2-4, 6-9 Nov 87	Red-stained tail
	25 Nov 87	Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D506	19 Aug;3-8,23 Sep 87	Red-stained nose
	28 Sep;2,5,6,20 Oct;1 Nov 87	" "
	12 Oct 87	Paired with 87D0321
	14 Oct 87	Sperm positive
	5 Nov 87	Gave birth
	6-8 Nov 87	Red-stained tail
	27 Nov 87	Euthanized
87D0510	7,14-17,26,27 Aug 87	Red-stained nose
	31 Aug-2 Sep;9,17,19 Sep 87	" "
	23,30 Sep;4-6,9,11 Oct 87	" "
	14-16 Oct;1,11-14 Nov 87	" "
	17,18,20,21 Nov 87	" "
	17-22 Sep 87	Hair loss from limbs
	20 Sep 87	Irritable
	13 Oct 87	Paired with 87D0334
	14 Oct 87	Sperm positive
	5 Nov 87	Gave birth
	27 Nov 87	Euthanized
87D0513	6,10-17 Aug 87	Red-stained nose
	19-24,26,31 Aug 87	" "
	1-9,15-24,28,29 Sep 87	" "
	1,3-9,11-16,20-26,28-31 Oct 87	" "
	1-26 Nov 87	" "
	10-17 Aug 87	Red-stained ear
	14 Oct 87	Paired with 87D0335
	15 Oct 87	Sperm positive
	5 Nov 87	Gave birth
	6 Nov 87	Red-stained tail
	27 Nov 87	Euthanized
87D0514	12 Aug-22 Oct 87	Hair loss from limbs
	27 Oct-11 Nov 87	" " " "
	22,31 Aug;1,8,19,21 Sep 87	Red-stained nose
	7 Oct;8 Nov 87	" "
	14 Oct 87	Paired with 87D0337
	16-17 Oct 87	Brown-stained body
	19 Oct 87	Sperm positive
	12 Nov 87	Did not give birth; Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0517	6,19,22,26,27 Aug 87	Red-stained nose
	9,16,21,26,27 Oct;5 Nov 87	" "
	15-17 Sep 87	Red-stained forelimb
	19-25 Sep;26 Oct-8 Nov 87	Hair loss from limbs
	14-18 Nov 87	" " " "
	14 Oct 87	Paired with 87D0340
	17 Oct 87	Sperm positive
	26 Oct 87	Red-stained eye
	8 Nov 87	Gave birth
	30 Nov 87	Euthanized
87D0521	14,25 Aug;15 Sep 87	Red-stained nose
	22-24,31 Oct;10,11 Nov 87	" "
	26 Aug-9 Sep;21 Oct-12 Nov 87	Hair loss from limbs
	14 Oct 87	Paired with 87D0343
	15 Oct 87	Sperm positive
	18-20,25 Oct;8 Nov 87	Aggressive
	12 Nov 87	Did not give birth; Euthanized
87D0528	6,10,11,19 Aug 87	Red-stained nose
	1,3-9,17,19,20,25,28,30 Sep 87	" "
	2,6,8,11-14,19-23,26-28,30 Oct 87	" "
	2 Nov 87	" "
	14 Oct 87	Paired with 87D0344
	16 Oct 87	Sperm positive
	7 Nov 87	Gave birth
	8 Nov 87	Red-stained tail
	30 Nov 87	Euthanized
87D0530	11-13,17,20,22 Aug 87	Red-stained nose
	19,21-23 Sep 87	" "
	14,26,28,30,31 Oct;4 Nov 87	" "
	23 Aug-12 Nov 87	Hair loss from limbs
	1 Oct 87	Red-stained eye
	14 Oct 87	Paired with 87D0345
	15 Oct-12 Nov 87	Infection at eartag site
	15 Oct 87	Sperm positive
	22 Oct-12 Nov 87	Hair loss, perianal
	12 Nov 87	Did not give birth; Euthanized

Appendix G-2 (Cont.)
INDIVIDUAL CLINICAL SIGNS
PARENTAL GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0532	14,17,19 Aug 87	Red-stained nose
	26,31 Aug;2,8-13,23 Sep 87	" "
	30 Sep;28,29 Oct 87	" "
	19 Aug-19 Sep 87	Red-stained eye
	23 Sep-11 Nov 87	" "
	20-25,28-30 Aug 87	Swollen eyelid
	1,3-9,14,16-21 Sep 87	" "
	25-30 Sep 87	Squinting eye
	15 Oct 87	Paired with 87D0383
	16 Oct 87	Sperm positive
	12 Nov 87	Did not give birth;
		Euthanized
87D0538	10,15,16 Aug 87	Increased startle reflex
	11-17,23,31 Aug 87	Red-stained nose
	2-8,15,16,19-23 Sep 87	" "
	3,5,6,15,17,21,26,31 Oct 87	" "
	5 Nov 87	" "
	11-14 Sep 87	Crusty material, eartag
	16 Oct 87	Paired with 87D0360
	17 Oct 87	Sperm positive
	8 Nov 87	Gave birth
	9-11 Nov 87	Red-stained tail
	30 Nov 87	Euthanized
87D0539	5 Aug 87	Dehydrated
	2,19 Sep 87	Red-stained nose
	17-22 Sep 87	Hair loss from limbs
	16 Oct 87	Paired with 87D0563
	17 Oct 87	Sperm positive
	8 Nov 87	Gave birth
	9-10 Nov 87	Red-stained tail
	30 Nov 87	Euthanized

Appendix G-2 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 PARENTAL GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0540	6,10-14,17 Aug 87	Red-stained nose
	19-24,26-30 Aug;2-8 Sep 87	" "
	11,12,16,18-20,23,28,30 Sep 87	" "
	1-8,14,16,18,19,22,26,28 Oct 87	" "
	1,5 Nov;7,14,15 Dec 87	" "
	19-24,26,27 Aug 87	Red-stained ear
	2-9,20-23 Sep 87	" "
	15-22 Sep 87	Hair loss from limbs
	16 Oct 87	Paired with 87D0402
	23 Oct 87	Removed from 87D0402;
		Paired with 87D0400
	30 Oct 87	Removed from 87D0400;
		Paired with 87D0382
	2 Nov 87	Sperm positive
	24 Nov 87	Gave birth
	16 Dec 87	Euthanized

Appendix G-3
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

Control Animals

Animal ID	Date(s)	Signs
87D0801	14 Nov 87	Weaned from 87D0430
	22 Dec 87; 4, 5, 18 Jan; 16 Feb 88	Red-stained nose
	4, 7, 8, 24, 28, 30, 31 Mar 88	" "
	22 Dec 87	Red-stained mouth
	1 Apr 88	Euthanized
87D0809	15 Nov 87	Weaned from 87D0437
	22 Dec 87-2 Jan 88	Hyperactive
	11, 18, 19, 23, 25 Jan 88	Irritable
	8, 16, 25 Feb 88	"
	4, 5, 7, 9, 18-22, 24, 25 Mar 88	"
	25 Jan; 16 Mar 88	Red-stained nose
	12 Mar 88	Red-stained eye
	21 Mar 88	Aggressive
	6 Apr 88	Euthanized
87D0813	16 Nov 87	Weaned from 87D0425
	1, 7, 15 Dec 87	Red-stained nose
	12 Jan; 16, 17 Feb 88	" "
	22 Dec 87-1 Mar 88	Hair loss from limbs
	4-8 Mar 88	" " " "
	14, 17, 24 Jan 88	Soft stools
	28 Jan; 31 Jan-1 Feb 88	Irritable
	2 Mar 88	Diarrhea
	2, 3 Mar 88	Brown-stained tail
	29 Mar 88	Euthanized
87D0821	16 Nov 87	Weaned from 87D0431
	28 Nov, 8, 15 Dec 87	Red-stained nose
	5, 8, 16, 29 Jan; 11, 25 Feb 88	" "
	8, 12, 16 Mar 88	" "
	7 Jan 88	Hair loss from limbs
	5 Apr 88	Euthanized

Appendix G-3 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - MALES

Control Animals

Animal ID	Date(s)	Signs
87D0829	18 Nov 87	Weaned from 87D0442
	23 Nov 88	Red-stained nose
2,8,15,17,21-25,27,29	Dec 87	" "
4,8,10,14,15,17-31	Jan 88	" "
1,5-8,11,25	Feb 88	" "
8,9,12,19,28,31	Mar 88	" "
4 Jan-5 Apr	88	Hair loss from limbs
6 Apr	88	Euthanized
87D0831	18 Nov 87	Weaned from 87D0445
1,2,7,8,17-20,23-25,27,28	Dec 87	Red-stained nose
5,7-9,12,18,27	Jan 88	" "
5,11,24-28 Feb;7-9,12,15	Mar 88	" "
	17 Dec 87	Red-stained mouth
	11 Feb 88	Red-stained eye; Irritable
	23-24 Mar 88	Red-stained bedding
	30 Mar 88	Euthanized
87D0837	19 Nov 87	Weaned from 87D0447
24 Nov;7,15,17,22	Dec 87	Red-stained nose
4,27-31 Jan;1,11,25-28	Feb 88	" "
2,3,10,11,15,16,22,30,31	Mar 88	" "
22 Dec 87;4,27 Jan;12	Mar 88	Red-stained head
	4 Jan 88	Red-stained mouth
13-22 Jan;7,8	Mar 88	Hair loss from limbs
19 Jan;8	Feb 88	Irritable
	7 Apr 88	Euthanized

Appendix G-3 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

Control Animals

Animal ID	Date(s)	Signs
87D0841	19 Nov 87	Weaned from 87D0461
	27 Dec 87; 20 Jan 88	Red-stained nose
	25 Feb; 22 Mar 88	" "
	30 Mar 88	Euthanized
87D0847	19 Nov 87	Weaned from 87D0472
	8, 23-25 Dec 87	Red-stained nose
	8, 13, 17 Jan; 25 Mar; 6 Apr 88	" "
	7-11 Jan 88	Hair loss from limbs
	24 Mar 88	Red-stained bedding
	11 Apr 88	Euthanized
87D0857	20 Nov 87	Weaned from 87D0479
	20, 23 Nov; 15, 21 Dec 87	Red-stained nose
	13, 20-22 Jan 88	" "
	16 Feb; 13, 18, 24 Mar 88	" "
	4-7 Jan 88	Hair loss from limbs
	1, 4, 7-23 Mar 88	Red-stained bedding
	2, 8, 30 Mar 88	Irritable
	15, 22 Mar 88	Red urine
	11 Apr 88	Euthanized
87D0861	21 Nov 87	Weaned from 87D0484
	23 Nov 87; 18 Jan 88	Red-stained nose
	16, 21 Mar; 1, 5 Apr 88	" "
	24 Jan 88	Irritable
	10 Feb; 4-6, 8 Mar 88	Hair loss from limbs
	6-8 Apr 88	Red-stained bedding
	11 Apr 88	Euthanized
87D0871	23 Nov 87	Weaned from 87D0496
	17 Dec 87; 18, 29 Jan 88	Red-stained nose
	26-28 Feb; 1, 12, 18, 19, 30 Mar 88	" "
	5 Apr 88	" "
	2, 3, 7, 8 Mar 88	Irritable
	6 Apr 88	Euthanized

Appendix G-3 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - MALES

Control Animals

Animal ID	Date(s)	Signs
87D0875	24 Nov 87	Weaned from 87D0498
	24 Nov;1,22 Dec 87	Red-stained nose
	12,15,18,28,31 Jan 88	" "
	1,11,16,19,20 Feb 88	" "
	1,8,9,11,12,14,16,21,28,29 Mar 88	" "
	18,29 Jan;11 Feb;12,31 Mar 88	Irritable
	27,28 Jan;11-18 Feb 88	Red-stained eye
	7,10-12,16,17 Mar 88	" "
	27,28 Jan 88	Squinting eye
	7 Apr 88	Euthanized
87D0877	24 Nov 87	Weaned from 87D0507
	2,8,14,15,17-19,22 Dec 87	Red-stained nose
	4-6,8,10,12,19,28 Jan 88	" "
	19,24 Feb;14-16,18,28 Mar 88	" "
	6 Apr 88	" "
	16 Feb 88	Irritable
	30 Mar 88	Brown-stained tail
	7 Apr 88	Euthanized
87D0879	24 Nov 87	Weaned from 87D0509
	14-15 Dec 87	Red-stained nose
	11,14,19,25,29 Jan 88	" "
	11,24 Feb;2,10-12,17,30 Mar 88	" "
	15 Dec 87	Irritable
	14-16 Jan 88	Hair loss from limbs
	4 Apr 88	Euthanized
87D0915	28 Nov 87	Weaned from 87D0545
	29 Jan;24 Feb;10,11 Mar 88	Red-stained nose
	24 Feb 88	Hair loss from limbs; Irritable
	10,11 Mar 88	Brown-stained tail
	12 Apr 88	Euthanized

Appendix G-3 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - MALES

Control Animals

Animal ID	Date(s)	Signs
87D0921	29 Nov 87	Weaned from 87D0572
	29 Nov 87; 27, 28 Jan 88	Red-stained nose
	4, 6, 28 Mar 88	" "
	8 Dec 87; 7, 11, 17 Jan 88	Irritable
	8, 16, 24 Feb; 2, 4, 5, 7, 8 Mar 88	"
	17-19 Jan 88	Hair loss from limbs
	27 Jan 88	Increased startle reflex
	7 Mar 88	Red-stained eye
	12 Apr 88	Euthanized
87D0935	29 Nov 87	Weaned from 87D0542
	23-24 Dec 87; 27 Jan; 7 Mar 88	Red-stained nose
	13 Jan 88	Brown stain, perianal; Soft stools
	12 Mar 88	Red-stained eye
	13-16 Mar 88	Brown-stained tail
	19 Mar 88	Irritable
	4 Apr 88	Euthanized
87D0937	29 Nov 87	Weaned from 87D0546
	29 Nov; 22-25 Dec 87	Red-stained nose
	5, 8 Jan; 11, 16 Feb 88	" "
	2, 3, 8, 15 Mar 88	" "
	8 Dec 87; 27 Jan; 26 Feb 88	Irritable
	8, 17, 18 Mar 88	"
	16-19 Jan 88	Hair loss from limbs
87D0939	12 Apr 88	Euthanized
	29 Nov 87	Weaned from 87D0551
	18, 27, 29 Jan 88	Red-stained nose
	2, 3, 11, 12, 28 Mar 88	" "
	11, 26-29 Feb; 2, 8, 15, 18 Mar 88	Irritable
	25 Feb; 10, 11 Mar 88	Brown-stained tail
	12 Apr 88	Euthanized
87D0949	1 Dec 87	Weaned from 87D0421
	7, 18, 19, 29 Jan 88	Irritable
	8, 16-18 Feb; 13, 25, 26 Mar 88	"
	11, 16, 27 Jan; 16 Feb 88	Red-stained nose
	1, 2, 18, 19, 23, 25-28 Mar 88	" "
	18-19 Jan; 2, 3 Mar 88	Hair loss from limbs;
	29 Mar 88	Euthanized

Appendix G-3 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

Control Animals

Animal ID	Date(s)	Signs
87D0951	1 Dec 87	Weaned from 87D0550
	1, 8, 17-19, 21-25 Dec 87	Red-stained nose
	4, 5, 7, 11, 12, 17, 19, 27-31 Jan 88	" "
	1-7, 11 Feb; 24 Feb-4 Mar 88	" "
	7, 9-16, 22, 29, 30 Mar 88	" "
	11, 13 Jan; 16 Jan-3 Apr 88	Hair loss from limbs
	11, 24 Jan, 4 Mar 88	Irritable
	4 Apr 88	Euthanized
87D0955	3 Dec 87	Weaned from 87D0446
	22-25 Dec 87	Red-stained nose
	4, 8, 9, 16 Jan 88	" "
	5-7, 25 Feb 88	" "
	2-5, 8, 10, 11, 16, 20, 22, 29 Mar 88	" "
	11 Apr 88	" "
	11 Jan; 20 Mar 88	Irritable
	13 Apr 88	Euthanized
87D0969	12 Dec 87	Weaned from 87D0523
	29 Dec 87-2 Jan 88	Red-stained nose
	17-19, 21, 22, 28-31 Jan 88	" "
	1-7, 23-25 Feb 88	" "
	1, 7, 9, 14, 17, 21, 22, 28 Mar 88	" "
	1, 2 Apr 88	" "
	27 Jan; 16 Feb; 2, 4 Mar 88	Irritable
	13 Apr 88	Euthanized
87D0971	13 Dec 87	Weaned from 87D0520
	17, 29 Jan; 11, 16, 17 Feb 88	Red-stained nose
	1, 7, 8, 11, 22 Mar 88	" "
	16, 17 Feb 88	Red-stained head
	2, 17 Mar 88	Irritable
	4-6 Mar 88	Hair loss from limbs
	15 Mar 88	Brown material, perianal
	13 Apr 88	Euthanized
87D0977	16 Dec 87	Weaned from 87D0525
	26-27 Feb; 4-6, 8, 9 Mar 88	Irritable
	14 Mar 88	Red-stained nose
	4 Apr 88	Red-stained eye
	13 Apr 88	Euthanized

Appendix G-3 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0807	15 Nov 87	Weaned from 87D0424
	8 Dec 87;11,25 Feb;31 Mar 88	Red-stained nose
	25 Feb 88	Aggressive
	26 Feb;20 Mar 88	Irritable
	1 Apr 88	Euthanized
87D0827	16 Nov 87	Weaned from 87D0463
	8 Dec 87	Red-stained nose
	12-15,17,20-22,27 Jan 88	" "
	14,15,26-29 Feb 88	" "
	7,8,15,20,21,25-27 Mar 88	" "
	4-7,13 Jan 88	Hair loss from limbs
	27 Jan 88	Red-stained head
	8,24 Feb;7,8 Mar 88	Aggressive
	16 Feb;4 Mar 88	Irritable
	7 Apr 88	Euthanized
87D0843	19 Nov 87	Weaned from 87D0464
	1,14,22,27,28 Dec 87	Red-stained nose
	20 Jan;8 Feb 88	" "
	10,11,18,21,23 Mar 88	" "
	22 Dec 87	Red-stained eye
	16-17 Jan 88	Increased startle reflex
	19,23 Jan;8,16 Feb;8,19 Mar 88	Irritable
	16 Feb 88	Brown-stained tail
	8 Mar 88	Brown material on tail
	7 Apr 88	Euthanized
87D0853	20 Nov 87	Weaned from 87D0475
	23 Nov,9,17,21 Dec 87	Red-stained nose
	11 Jan;11,14,15,24 Feb 88	" "
	10,22,24,25,28 Mar 88	" "
	6-7 Jan,26 Feb 88	Hair loss from limbs
	11 Feb 88	Irritable
	1 Apr 88	Euthanized

Appendix G-3 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - MALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0863	22 Nov 87	Weaned from 87D0452
	23-25 Dec 87; 7, 18 Jan 88	Red-stained nose
	16, 26-28 Feb; 2-5, 13, 15 Mar 88	" "
	6 Apr 88	" "
	5 Jan-10 Apr 88	Hair loss from limbs
	1 Apr 88	Diarrhea
	11 Apr 88	Euthanized
87D0865	22 Nov 87	Weaned from 87D0473
	7-8, 15 Dec 87	Red-stained nose
	29 Jan; 4, 7, 8, 16 Mar 88	" "
	11-13 Jan; 24-29 Feb 88	Hair loss from limbs
	2-8, 10, 11 Mar 88	" " " "
	28 Mar-5 Apr 88	" " " "
	29 Jan; 26-29 Feb 88	Irritable
	26 Feb 88	Aggressive
87D0885	10 Mar 88	Red-stained eye
	6 Apr 88	Euthanized
	25 Nov 87	Weaned from 87D0518
	1, 15-26 Dec 87	Irritable
	4-7, 12-15, 17-19, 27 Jan 88	"
	11, 16, 25-27 Feb 88	"
	2, 4, 7-9, 17, 21 Mar 88	"
	4, 27, 29 Jan; 11, 24, 25 Feb 88	Red-stained nose
	1, 15, 17 Mar; 5 Apr 88	" "
	16 Feb 88	Hair loss from limbs
87D0891	7 Apr 88	Euthanized
	26 Nov 87	Weaned from 87D0501
	8, 14, 21 Dec 87; 16 Mar 88	Red-stained nose
	8, 11 Feb 88	Red-stained bedding
	8-21 Feb 88	Infection, eartag site
	16 Feb 88	Brown-stained tail
	20 Mar 88	Swollen paw digits
	4 Apr 88	Euthanized

Appendix G-3 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0899	26 Nov 87	Weaned from 87D0522
	17,29 Dec 87;13,18 Jan 88	Irritable
	9 Mar 88	"
	30 Dec 87-1 Jan 88	Red-stained nose
	11,19-21,24 Feb 88	" "
	26 Feb-1 Mar,3,12,18,22 Mar 88	" "
	7 Apr 88	Euthanized
87D0901	27 Nov 87	Weaned from 87D0448
	17,18 Jan;4,6 Mar 88	Irritable
	17-19 Jan 88	Hair loss from limbs
	28 Jan;11,24 Feb 88	Red-stained nose
	2,4-6,15 Mar 88	" "
	12 Apr 88	Euthanized
87D0903	27 Nov 87	Weaned from 87D0499
	8-10 Dec 87;19 Jan;4 Mar 88	Irritable
	12,28 Jan;5-7,11,24,25 Feb 88	Red-stained nose
	8,12,17,23,28,29 Mar 88	" "
	1-3,5,6,8 Apr 88	" "
	24,31 Mar;1 Apr 88	Red-stained bedding
	4-6,8 Apr 88	" "
	12 Apr 88	Euthanized
87D0907	28 Nov 87	Weaned from 87D0502
	15,23-25 Dec 87;8,9 Jan 88	Red-stained nose
	17 Feb;4,8,10,15,16 Mar 88	" "
	20,22,31 Mar 88	" "
	23-26 Dec 87;5,11,12,29 Jan 88	Irritable
	11,16-18,26 Feb;1 Mar 88	"
	11 Feb 88	Increased startle reflex
	17 Feb;22 Mar 88	Red-stained head
	12 Apr 88	Euthanized
87D0913	28 Nov 87	Weaned from 87D0536
	15 Dec 87;11,13,19 Mar 88	Red-stained nose
	20 Jan 88	Irritable
	12 Apr 88	Euthanized

Appendix G-3 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0925	29 Nov 87	Weaned from 87D0531
	29 Nov 87; 4, 5, 28 Mar 88	Red-stained nose
	29 Jan; 4 Mar 88	Irritable
	4-6 Mar 88	Red-stained head
	29 Mar 88	Euthanized
87D0927	29 Nov 87	Weaned from 87D0534
	15 Dec 87	Dehydrated
	12, 13, 19, 29 Jan; 8, 13, 24-26 Feb 88	Irritable
	22 Mar; 5 Apr 88	"
	19 Jan 88	Aggressive
	23 Jan-28 Mar 88	Hair loss from limbs
	30 Mar-6 Apr; 8-11 Apr 88	" " " "
	27-29 Jan; 8 Feb-3 Mar; 5, 6 Mar 88	Brown-stained body
	8, 9 Mar; 4-6, 8-10 Apr 88	" "
	15 Dec 87; 7, 11, 20, 30 Mar; 1 Apr 88	Red-stained nose
87D0941	18-20 Mar 88	Red-stain near ear
	12 Apr 88	Euthanized
	30 Nov 87	Weaned from 87D0449
	2 Dec; 22-25 87	Red-stained nose
	27, 29 Jan; 8, 25 Feb 88	" "
	1-5, 12, 15 Mar 88	" "
	21-22 Dec 87; 4-6, 27 Jan 88	Irritable
	11, 25 Feb; 2-4, 8, 17 Mar 88	"
	27 Jan 88	Hair loss from limbs
	2-3 Mar 88	Red-stained head
87D0945	18 Mar 88	Death
	30 Nov 87	Weaned from 87D0533
	12 Jan; 15 Mar 88	Red-stained nose
	14-15, 17 Jan 88	Brown stain, perianal
	19 Jan; 2, 18 Mar 88	Irritable
	25 Feb 88	Brown-stained tail
	13 Apr 88	Euthanized

Appendix G-3 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0947	30 Nov 87	Weaned from 87D0549
	1,14,17,21,22 Dec 87	Red-stained nose
	8-9,11,13,16-18 Jan 88	" "
	8,25 Feb;12,20,23,29,30 Mar 88	" "
	6 Apr 88	" "
	12 Jan-12 Apr 88	Hair loss from limbs
	12,30,31 Mar 88	Irritable
	13 Apr 88	Euthanized
87D0957	4 Dec 87	Weaned from 87D0495
	14,15,17-19,22-25,27,28 Dec 87	Red-stained nose
	6,8,9,11,13,15,16,27 Jan 88	" "
	24,25 Feb 88	" "
	2,3,8,13,17,23,28-30 Mar 88	" "
	5,6,10 Apr 88	" "
	21 Dec 87	Irritable
	14,15 Jan 88	Aggressive
87D0959	27 Jan 88	Hair loss from limbs
	13 Apr 88	Euthanized
	6 Dec 87	Weaned from 87D0476
	7 Dec 87;5,14,20,27,28 Jan 88	Red-stained nose
	25 Feb;8,13,14,23,28,30 Mar 88	" "
87D0963	8 Apr 88	" "
	16,19-22 Jan;2,3 Mar 88	Irritable
	13 Apr 88	Euthanized
	9 Dec 87	Weaned from 87D0488
	22 Dec 87	Red-stained nose
87D0963	5,6,11,12,14-16,19,27,29 Jan 88	" "
	8,25-29 Feb;2-7,24,25,30 Mar 88	" "
	6,11 Apr 88	" "
	5,13,16,27 Jan 88	Irritable
	11,16,17,26-29 Feb;2,12 Mar 88	"
	29 Feb;1 Mar 88	Aggressive
	13 Apr 88	Euthanized

Appendix G-3 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - MALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0803	14 Nov 87	Weaned from 87D0432
	16 Nov, 21 Dec 87	Red-stained nose
	11, 16, 24-28 Feb 88	" "
	9, 22 Mar 88	Irritable
	30 Mar 88	Euthanized
87D0805	15 Nov 87	Weaned from 87D0420
	22 Dec 87; 14 Jan 88	Red-stained nose
	24 Feb; 1, 7, 13, 16 Mar 88	" "
	22, 25, 28 Mar 88	" "
	16 Feb; 12, 23 Mar 88	Irritable
	5-7 Jan; 9-12 Mar 88	Hair loss from limbs
	29 Mar 88	Euthanized
87D0811	15 Nov 87	Weaned from 87D0443
	24 Nov; 8, 14, 15 Dec 87	Red-stained nose
	5, 16, 17, 19, 27 Jan 88	" "
	16, 24, 25 Feb; 2, 15 Mar 88	" "
	2 Dec 87	Red-stained eye
	30 Mar 88	Euthanized
87D0817	16 Nov 87	Weaned from 87D0427
	17, 23 Nov; 1, 15, 22 Dec 87	Red-stained nose
	11, 13, 14, 24, 27 Jan 88	" "
	29 Jan-1 Feb 88	" "
	16, 23, 26-28 Feb 88	" "
	1, 4, 5, 7, 8, 13, 16, 25 Mar 88	" "
	5-6 Jan 88	Hair loss from limbs
	11 Feb 88	Brown-stained tail
	9 Mar 88	Irritable
	5 Apr 88	Euthanized

Appendix G-3 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - MALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0825	16 Nov 87	Weaned from 87D0435
	29 Nov; 2, 7-10, 15, 22 Dec 87	Red-stained nose
	11, 12, 14, 18, 20-24 Jan 88	" "
	27 Jan-1 Feb 88	" "
	5-8, 16, 24, 26 Feb 88	" "
	2-5, 8, 15 Mar 88	" "
	17-22, 29 Dec 87	Red-stained eye
	11-17, 19-24, 27-29 Jan 88	" "
	8, 9, 11-16, 25 Feb 88	" "
	2, 8, 9, 12-15, 22 Mar; 2, 3 Apr 88	" "
	4 Jan 88	Dehydrated
	4 Jan-4 Apr 88	Hair loss from limbs
	14, 15, 18, 20-23, 27, 28 Jan 88	Eye squinting
	8, 24 Feb; 1, 8, 12, 15 Mar 88	"
	5 Apr 88	Euthanized
87D0835	18 Nov 87	Weaned from 87D0456
	2 Dec 87; 12 Jan 88	Red-stained nose
	27-31 Jan; 1, 5-7, 25-29 Feb 88	" "
	7, 8, 10-12, 20-22 Mar 88	" "
	8 Dec 87; 8, 17, 23 Mar 88	Irritable
	13 Jan-29 Mar 88	Hair loss from limbs
87D0839	30 Mar 88	Euthanized
	19 Nov 87	Weaned from 87D0459
	7, 14, 15 Dec 87	Red-stained nose
	4, 8, 11, 17, 18, 20, 27, 29 Jan 88	" "
	25 Feb; 2, 3, 12, 14, 21 Mar 88	" "
	6 Apr 88	" "
87D0845	27-29 Jan; 2 Feb-6 Apr 88	Brown-stained body
	7 Apr 88	Euthanized
	19 Nov 87	Weaned from 87D0469
87D0845	23-25 Dec 87; 24 Feb 88	Red-stained nose
	2, 8, 23, 24, 28 Mar 88	" "
	4 Jan 88	Aggressive
	8 Mar 88	Red-stained head
	20 Mar 88	Irritable
	5 Apr 88	Euthanized

Appendix G-3 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0849	20 Nov 87	Weaned from 87D0466
	8 Dec 87; 5 Jan 88	Irritable
	24, 26-28 Feb; 17-19 Mar 88	"
	11-18 Jan 88	Hair loss from limbs
	14, 19, 20, 27, 28 Jan 88	Red-stained nose
	16 Feb; 8, 17-19, 28, 29 Mar 88	" "
	1, 31 Mar 88	Aggressive
	11 Apr 88	Euthanized
87D0859	21 Nov 87	Weaned from 87D0478
	12, 29 Jan; 2, 31 Mar 88	Red-stained nose
	8 Mar 88	Brown-stained body
	1 Apr 88	Euthanized
87D0869	23 Nov 87	Weaned from 87D0490
	17-19 Dec 87; 18, 25 Jan 88	Red-stained nose
	24-29 Feb 88	" "
	4-6, 8, 13, 16, 17, 28 Mar 88	" "
	6 Apr 88	" "
	5 Jan-11 Apr 88	Hair loss from limbs
	17 Jan 88	Irritable
	8, 11, 16-18, 20, 24, 26, 27 Feb 88	"
	2, 8-10 Mar 88	"
	18 Jan 88	Scab on foot
	23 Mar 88	Red-stained head
	11 Apr 88	Euthanized
87D0881	25 Nov 87	Weaned from 87D0471
	14 Dec 87	Red-stained nose
	5, 11, 14, 15, 19, 27, 31 Jan 88	" "
	1, 11, 16, 26-29 Feb 88	" "
	2-6, 8, 15, 25, 28, 29 Mar 88	" "
	17 Jan 88	Hair loss from limbs
	19 Jan; 8 Feb; 2 Mar 88	Irritable
	12 Mar 88	Brown material on body; Brown-stained tail
	28 Mar 88	Head injured in feeder
	28 Mar-3 Apr 88	Swollen lip; Red-stained eye
	4 Apr 88	Euthanized

Appendix G-3 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0887	26 Nov 87	Weaned from 87D0480
	21,23-25 Dec 87	Red-stained nose
	13,27,29 Jan 88	" "
	31 Jan-1 Feb;5,8,25 Feb 88	" "
	2,8,18-21 Mar;8-10 Apr 88	" "
	4 Jan;25 Feb 88	Irritable
	2-9 Mar,15 Mar-10 Apr 88	Red-stained eye
	1 Apr 88	Red-stained ear
	11 Apr 88	Euthanized
87D0889	26 Nov 87	Weaned from 87D0494
	23-25 Dec 87;27 Jan 88	Red-stained nose
	31 Jan-4 Feb;8,9 Feb 88	" "
	10,11,17 Mar;4,6 Apr 88	" "
	29,31 Dec 87;11,17-19 Jan 88	Irritable
	16 Feb;2 Mar 88	"
	11,13 Jan 88	Hair loss from limbs
	12 Apr 88	Euthanized
87D0905	27 Nov 87	Weaned from 87D0511
	29 Dec 87;24,25 Jan 88	Red-stained nose
	8,11 Feb;25-29 Feb 88	" "
	1,8,18-21,28 Mar 88	" "
	16-19 Jan 88	Hair loss from limbs
	4 Apr 88	Euthanized
87D0909	28 Nov 87	Weaned from 87D0515
	14,17 Jan;16 Feb;4 Mar 88	Red-stained nose
	11,16 Feb 88	Irritable
	12 Apr 88	Euthanized
87D0917	28 Nov 87	Weaned from 87D0547
	2,10,11,28 Mar 88	Red-stained nose
	12 Apr 88	Euthanized
87D0919	29 Nov 87	Weaned from 87D0417
	29 Nov 87;27 Jan;1 Feb 88	Red-stained nose
	13,22,28,31 Mar 88	" "
	16-17 Jan 88	Hair loss from limbs
	27,31 Jan;1 Feb 88	Aggressive
	12 Apr 88	Euthanized

Appendix G-3 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0929	29 Nov 87	Weaned from 87D0537
	16 Jan 88	Red-stained nose
	19-20 Jan; 21, 23, 24 Mar 88	Hair loss from limbs
	29 Mar 88	Irritable
		Euthanized
87D0943	30 Nov 87	Weaned from 87D0526
	21-22 Dec 87; 5, 6, 27 Jan 88	Irritable
	12, 19 Jan; 9, 17 Mar 88	Red-stained nose
	5 Apr 88	Euthanized
87D0965	10 Dec 87	Weaned from 87D0508
	12, 29 Jan; 25 Feb 88	Red-stained nose
	2, 3, 8, 9, 12, 23, 28 Mar 88	" "
	16, 19 Jan; 16, 26 Feb 88	Irritable
	2, 8, 9, 22, 25 Mar 88	"
	29 Mar 88	Euthanized
87D0967	10 Dec 87	Weaned from 87D0527
	5 Jan; 16 Feb 88	Irritable
	25 Feb-5 Mar; 8, 15, 16 Mar 88	"
	23 Feb; 13, 27 Mar 88	Red-stained nose
	4 Apr 88	Euthanized
87D0973	14 Dec 87	Weaned from 87D0543
	5 Jan; 18-22, 25, 31 Jan 88	Irritable
	1, 12, 16 Feb 88	"
	25 Feb-2 Mar 88	"
	4, 5, 9, 12, 22, 30 Mar 88	"
	16, 27, 31 Jan 88	Red-stained nose
	1 Feb; 1, 13, 16, 17, 23, 30 Mar 88	" "
	18, 27 Jan; 2, 8 Mar; 12 Apr 88	Aggressive
	24 Mar 88	Red-stained eye
	13 Apr 88	Euthanized

Appendix G-3 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0815	16 Nov 87	Weaned from 87D0426
	23 Nov; 2, 7, 15, 17-19 Dec 87	Red-stained nose
	14, 15, 27 Jan; 23 Feb 88	" "
	10-14, 16 Mar 88	" "
	8 Dec 87	Aggressive
	23 Jan; 14, 16, 24, 26, 27 Feb 88	Irritable
	2, 3, 7, 8 Mar 88	"
	1 Apr 88	Euthanized
87D0819	16 Nov 87	Weaned from 87D0429
	22 Dec 87	Red-stained nose
	11, 15, 17-19, 21, 22 Jan 88	Irritable
	9, 10, 12, 21, 22, 24, 25, 28 Mar 88	"
	7 Apr 88	Euthanized
87D0823	16 Nov 87	Weaned from 87D0434
	8, 17-20 Dec 87; 6, 27, 29 Jan 88	Red-stained nose
	23, 24 Feb; 4, 8, 18, 23, 28 Mar 88	" "
	12-15 Jan 88	Hair loss from limbs
	18, 23 Jan; 8, 11, 24 Feb 88	Irritable
	2, 8, 18, 22 Mar 88	"
	29 Mar 88	Euthanized
87D0833	18 Nov 87	Weaned from 87D0450
	14 Dec 87; 20-23 Jan 88	Red-stained nose
	2-6, 8, 9 Mar 88	" "
	13 Jan 88	Aggressive
	6 Apr 88	Euthanized
87D0851	20 Nov 87	Weaned from 87D0467
	24 Nov; 7, 8, 10, 21 Dec 87	Red-stained nose
	7, 18, 20, 25 Jan 88	" "
	18 Mar; 4 Apr 88	" "
	8-10 Dec 87	Red-stained limbs
	6 Apr 88	Euthanized

Appendix G-3 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F₁ GENERATION - MALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0855	20 Nov 87	Weaned from 87D0477
	21 Dec 87;11,24 Feb 88	Red-stained nose
	6-7 Jan;11-15 Feb 88	Hair loss from limbs
	18 Mar;25 Mar-6 Apr 88	" " " "
	24 Feb 88	Red-stained head
	1 Mar 88	Irritable
	11 Apr 88	Euthanized
87D0867	22 Nov 87	Weaned from 87D0500
	23 Nov;1 Dec 87	Red-stained nose
	4,8,9,11,27,29-31 Jan 88	" "
	1,17,18,24,26-28 Feb 88	" "
	2,3,7,8,12,30 Mar 88	" "
	14 Jan-4 Apr 88	Hair loss from limbs
	9,24 Mar 88	Irritable
	17 Mar 88	Red-stained eye
87D0873	5 Apr 88	Euthanized
	23 Nov 87	Weaned from 87D0505
	21-22 Dec 87	Red-stained nose
	4,7,11,12,14,16,19,29,31 Jan 88	" "
	1,11,16,24,26-29 Feb 88	" "
	2-8,12,13,15,17-22,29 Mar 88	" "
	5 Apr 88	" "
	25 Feb 88	Aggressive
	11 Apr 88	Euthanized
87D0883	25 Nov 87	Weaned from 87D0504
	1,16 Dec 87;28 Jan 88	Red-stained nose
	5,11,24 Feb;1,10 Mar 88	" "
	5 Jan 88	Hyperactive
	13 Jan 88	Red-stained eye
	14-19 Jan 88	Hair loss from limbs
	24 Feb;1 Mar 88	Irritable
	4 Apr 88	Euthanized

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Appendix G-3 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0893	26 Nov 87	Weaned from 87D0506
	30 Nov 87	Dark material on ear
	8 Feb 88	Red-stained head
	11 Feb-6 Apr 88	Hair loss from limbs
	16 Feb;2,3,18 Mar 88	Irritable
	25 Feb;1,24 Mar 88	Red-stained nose
	7 Apr 88	Euthanized
87D0895	26 Nov 87	Weaned from 87D0510
	14,22 Dec 87	Red-stained nose
	5,11-14,19,20,27,29 Jan 88	" "
	11,25-28 Feb 88	" "
	2,3,9,12,18,28 Mar 88	" "
	22 Dec 87;11,17-22 Jan 88	Irritable
	11,16,17,24,25 Feb 88	"
	1,2,8,22 Mar 88	"
	7 Apr 88	Euthanized
87D0897	26 Nov 87	Weaned from 87D0513
	17 Dec 87;13,27 Jan 88	Red-stained nose
	8,24 Feb;26 Feb-3 Mar 88	" "
	9,30 Mar;5 Apr 88	" "
	5 Jan 88	Red-stained eye
	11,13,18,19,29 Jan 88	Irritable
	19,22,29 Mar 88	"
	19 Jan;11 Feb 88	Increased startle reflex
	30 Mar 88	Agressive
	7 Apr 88	Euthanized
87D0911	28 Nov 87	Weaned from 87D0528
	20-22 Jan;9,11-15 Feb 88	Red-stained nose
	1-3,13,14,22,23 Mar 88	" "
	8 Feb 88	Red-stained eye
	4 Apr	Euthanized

Appendix G-3 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - MALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0923	29 Nov 87	Weaned from 87D0517
	8 Dec 87;19,27 Jan;11 Feb 88	Irritable
	2,8,15,17,18,20-22,24 Mar 88	"
	11 Jan 88	Increased startle reflex
	16-18 Jan 88	Hair loss from limbs
	28 Jan;3,29 Mar;8,9 Apr 88	Red-stained nose
	24 Feb 88	Red-stained eye
	7 Mar 88	Aggressive
	12 Apr 88	Euthanized
87D0931	29 Nov 87	Weaned from 87D0538
	29 Nov;21 Dec 87	Red-stained nose
	5,14,15,17,18,20-22,27 Jan 88	" "
	24,25 Feb;2,3,10,13,29 Mar 88	" "
	1 Apr 88	" "
	19 Jan;23 Jan-1 Apr 88	Hair loss from limbs
	24 Feb;17 Mar 88	Irritable
	1 Mar 88	Increased startle reflex
	4 Apr 88	Euthanized
87D0933	29 Nov 87	Weaned from 87D0539
	7 Dec 87;12,19 Jan 88	Irritable
	8,18,30 Mar 88	"
	19 Jan;22-29 Feb;1-3 Apr 88	Hair loss from limbs
	29 Jan 88	Red-stained head
	14 Mar 88	Red-stained nose
	12 Apr 88	Euthanized
87D0953	2 Dec 87	Weaned from 87D0414
	2-9 Dec 87;10-15,18 Mar 88	Hair loss from limbs
	23-25 Dec 87	Red-stained nose
	5,11,14,15,28 Jan 88	" "
	16,24,25 Feb;4,7,11,23,25 Mar 88	" "
	25 Feb 88	Red-stained head;
		Infection, eartag site
	29 Mar 88	Euthanized

Appendix G-3 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - MALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0961	8 Dec 87	Weaned from 87D0503
	11 Dec 87	Dehydrated;
		Rough hair coat
11 Dec 87;11 Jan;23,26-29 Feb 88		Red-stained nose
2,3,17,25,26,30 Mar;6 Apr 88		" "
13,16,27,29 Jan;11,16,17 Feb 88		Irritable
25 Feb-1 Mar;9,22 Mar 88		"
13 Apr 88		Euthanized
87D0975	15 Dec 87	Weaned from 87D0540
16 Feb;4-6,8,10,11,17,21 Mar 88		Red-stained nose
4,17,29 Mar 88		Irritable
13 Apr 88		Euthanized

Appendix G-4
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0802	14 Nov 87	Weaned from 87D0430
	22-24, 28 Dec 87; 4 Apr 88	Red-stained nose
	11, 17, 24, 26-29 Feb 88	Red-stained head
	2, 9, 17-19 Mar; 6 Apr 88	" "
	4 Mar 88	Irritable
	14 Mar 88	Paired with 87D0809
	15 Mar 88	Sperm positive
	5 Apr 88	Red-stained eye
	11 Apr 88	Did not give birth;
		Euthanized
87D0810	15 Nov 87	Weaned from 87D0437
	7 Dec 87; 9 Feb; 8, 12, 17 Mar 88	Red-stained nose
	14 Mar 88	Paired with 87D0801
	21 Mar 88	Removed from 87D0801;
		Paired with 87D0813
	28 Mar 88	Removed from 87D0813;
87D0814		Paired with 87D0821
	4 Apr 88	Removed from 87D0821
		Euthanized
	16 Nov 87	Weaned from 87D0425
	16 Dec 87	Increased startle reflex
	7 Jan 88	Aggressive
87D0814	27 Jan; 1, 2 Feb 88	Red-stained nose
	23, 25, 30 Mar; 5 Apr 88	" "
	27 Jan 88	Red-stained head
	31 Jan; 1 Feb 88	Irritable
	14 Mar 88	Paired with 87D0821
	15, 16 Mar 88	Red-stained eye
	17 Mar 88	Sperm positive
	8 Apr 88	Gave birth
	2 May 88	Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0822	16 Nov 87	Weaned from 87D0431
	25,30 Nov;21 Dec 87	Red-stained nose
	6,19,27 Jan;23 Feb 88	" "
	7,15,17,28 Mar;16 Apr 88	" "
	24-25 Jan 88	Hair loss from limbs
	17 Feb 88	Red-stained head
	14 Mar 88	Paired with 87D0813
	15 Mar 88	Sperm positive
	7 Apr 88	Gave birth
	29 Apr 88	Euthanized
87D0830	18 Nov 87	Weaned from 87D0442
	1 Dec 87;15,28 Mar 88	Red-stained nose
	6-7,10,26 Apr 88	" "
	18 Jan 88	Irritable
	15 Mar 88	Paired with 87D0831
	22 Mar 88	Removed from 87D0831;
		Paired with 87D0841
	29 Mar 88	Removed from 87D0841;
		Paired with 87D0809
	3 Apr 88	Sperm positive
87D0832	25 Apr 88	Gave birth
	16 May 88	Red-stained eye
	17 May 88	Euthanized
	18 Nov 87	Weaned from 87D0445
	9-11,23-25 Dec 87	Red-stained nose
	6,16,27 Jan;11,18 Feb 88	" "
	7,9,13,16,18,19 Mar 88	" "
	22,23,28,31 Mar;8 Apr 88	" "
	9-11,15-17,24,26-29 Feb 88	Irritable
	2-5,8,9,16 Mar 88	"
	17 Feb;16 Mar 88	Red-stained head
	15 Mar 88	Paired with 87D0829
	18 Mar 88	Sperm positive
	11 Apr 88	Did not give birth;
		Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0838	19 Nov 87	Weaned from 87D0447
16 Jan; 8, 17, 23, 24, 29 Mar 88		Red-stained nose
1, 6, 7, 13 Apr 88		" "
27 Jan; 17 Feb 88		Irritable
15 Mar 88		Paired with 87D0841
16 Mar 88		Red-stained head
22 Mar 88		Removed from 87D0841;
		Paired with 87D0831
29 Mar 88		Removed from 87D0831;
		Paired with 87D0829
2 Apr 88		Sperm positive
28 Apr 88		Did not give birth;
		Euthanized
87D0842	19 Nov 87	Weaned from 87D0461
27, 29 Jan; 11, 16, 17 Feb 88		Red-stained nose
2, 13, 22, 23 Mar; 6 Apr 88		" "
15 Feb 88		Irritable
17-18 Feb 88		Red-stained eye
15, 23, 30 Mar 88		Red-stained head
15 Mar 88		Paired with 87D0837
16 Mar 88		Sperm positive
11 Apr 88		Did not give birth;
		Euthanized
87D0848	19 Nov 87	Weaned from 87D0472
15, 17, 25 Feb; 1, 9 Mar; 10 Apr 88		Red-stained nose
16 Mar 88		Paired with 87D0857
18 Mar 88		Sperm positive
9 Apr 88		Gave birth
10-12 Apr 88		Red-stained tail
2 May 88		Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0858	20 Nov 87	Weaned from 87D0479
	20 Nov 87; 18 Feb; 23, 26 Mar 88	Red-stained nose
	10, 14, 27 Apr 88	" "
	6 Feb; 9 Mar 88	Irritable
	2-3, 26 Mar 88	Red-stained head
	12 Mar 88	Red-stained eye
	15 Mar 88	Paired with 87D0847
	18 Mar 88	Sperm positive
	10 Apr 88	Gave birth
	3 May 88	Euthanized
87D0862	21 Nov 87	Weaned from 87D0484
	23 Nov 87	Red-stained nose
	11, 14-16, 20-22, 28, 29 Jan 88	" "
	16-18, 20 Feb 88	" "
	2, 4, 5, 8, 9, 11, 12, 16 Mar 88	" "
	18, 21, 23, 25, 30 Mar 88	" "
	6-10, 14, 27 Apr; 2 May 88	" "
	14-16 Jan 88	Hair loss from limbs
	27 Jan; 8, 17, 25 Feb 88	Irritable
	2, 7 Mar; 17 Apr 88	"
	17-18 Feb 88	Red-stained eye
	16 Mar 88	Paired with 87D0871
	18 Mar 88	Sperm positive
	8, 10 Apr 88	Red-stained head
	10 Apr 88	Gave birth;
	10-12 Apr 88	Red-stained tail
	3 May 88	Euthanized
87D0872	23 Nov 87	Weaned from 87D0496
	31 Jan; 1, 17 Feb 88	Red-stained nose
	13, 18, 19 Mar 88	" "
	5, 9, 10, 14, 28-30 Apr 88	" "
	1, 2 May 88	" "
	13 Mar 88	Red-stained eye
	16 Mar 88	Paired with 87D0861
	18 Mar 88	Sperm positive
	10 Apr 88	Gave birth
	3 May 88	Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0876	24 Nov 87	Weaned from 87D0498;
	24 Nov;16,21 Dec 87	Red-stained nose
	6,13-15,18,21,22 Jan 88	" "
	8,24 Feb;17 Mar;2 May 88	" "
	6-7,11,13-16,27-29 Jan 88	Hyperactive
	3-7 Feb 88	"
	14-15,18-20 Jan 88	Red-stained head
	16 Mar 88	Paired with 87D0871
	20 Mar 88	Sperm positive
	11 Apr 88	Gave birth
	3 May 88	Euthanized
87D0878	24 Nov 87	Weaned from 87D0507
	24 Nov 87;14,15,28 Jan 88	Red-stained nose
	16-17,24,26-29 Feb 88	" "
	14,18,21 Mar;4,5 Apr;2,5 May 88	" "
	14-15 Jan;12 Mar 88	Red-stained eye
	27 Jan;15,24,25 Feb 88	Irritable
	29 Jan 88	Red-stained head
	17-18 Feb 88	Red-stained ear
	16 Mar 88	Paired with 87D0875
	22 Mar 88	Sperm positive
	14 Apr 88	Gave birth
	6 May 88	Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0880	24 Nov 87	Weaned from 87D0509
	16-17 Dec 87; 14, 15 Jan 88	Red-stained nose
	11, 17, 25 Feb	" "
	2, 3, 9-11, 17, 22, 23, 29 Mar 88	" "
	6-7, 11 Apr 88	" "
	12 Jan-24 Apr 88	Hair loss from limbs
	8-12, 16-22, 24-29 Feb 88	Brown-stained body
	1, 2, 4, 7, 9-14, 16-18, 24 Mar 88	" "
	11 Feb 88	Red-stained eye
	24 Feb 88	Irritable
	10-11 Mar 88	Red-stained head
	18 Mar 88	Paired with 87D0915
	20 Mar 88	Sperm positive
	11 Apr 88	Gave birth
	13-24 Apr 88	Nipples not prominent
	22 Apr 88	All pups dead
	25 Apr 88	Euthanized
87D0916	28 Nov 87	Weaned from 87D0545
	17 Dec 87; 27 Jan; 26-29 Feb 88	Red-stained nose
	9, 16, 17, 29, 31 Mar; 1-4 Apr 88	" "
	16 Jan; 16, 29 Mar; 1-4 Apr 88	Red-stained head
	17 Mar 88	Paired with 87D0879
	24 Mar 88	Removed from 87D0879;
		Paired with 87D0801
	31 Mar 88	Removed from 87D0801;
		Paired with 87D0837
	2 Apr 88	Sperm positive
	28 Apr 88	Did not give birth;
		Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0922	29 Nov 87	Weaned from 87D0572
	19 Jan; 16 Feb 88	Red-stained eye
	13, 18-21, 28 Mar 88	Red-stained nose
	6, 7, 12, 14-16, 27, 28, 30 Apr 88	" "
	1-3, 5, 6 May 88	" "
	19 Mar 88	Paired with 87D0935
	22, 25 Mar 88	Red-stained head
	26 Mar 88	Removed from 87D0935;
		Paired with 87D0951
	2 Apr 88	Removed from 87D0951;
		Paired with 87D0861
	J4 Apr 88	Sperm positive
	26 Apr 88	Gave birth
	18 May 88	Euthanized
87D0936	29 Nov 87	Weaned from 87D0542
	24 Feb 88	Irritable
	18 Mar 88	Yellow material, perianal;
		Paired with 87D0921
	21 Mar 88	Sperm positive
	30 Mar 88	Red-stained nose
	18 Apr 88	Did not give birth;
		Euthanized
87D0938	29 Nov 87	Weaned from 87D0546
	29 Nov 87; 17, 18 Feb 88	Red-stained nose
	3-5, 10, 11, 19, 23 Mar 88	" "
	9 Dec 87	Aggressive
	9-10 Dec 87	Irritable
	13-15, 20, 28 Jan 88	"
	16, 17, 20, 24 Feb; 4-6, 8 Mar 88	"
	21 Dec 87	Increased startle reflex
	17-18 Feb 88	Red-stained eye
	19 Mar 88	Paired with 87D0939
	20 Mar 88	Sperm positive
	15 Apr 88	Did not give birth;
		Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F₁ GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0940	29 Nov 87	Weaned from 87D0551
	29,30 Nov 87;8,9,16 Mar 88	Red-stained nose
	27 Apr 88	" "
	19 Mar 88	Paired with 87D0937
	20 Mar 88	Sperm positive; Irritable
	12 Apr 88	Gave birth
	12-14 Apr 88	Red-stained tail
	13 Apr 88	Nipples not prominent
	4 May 88	Euthanized
87D0950	1 Dec 87	Weaned from 87D0421
	16,18-20 Dec 87	Irritable
	17-19 Dec 87	Red-stained nose
	17 Jan;16,24 Feb 88	" "
	3,13,14,17,20-22,24,28,30 Mar 88	" "
	4-6,9 Apr 88	" "
	27 Jan 88	Red-stained eye; Squinting eye
	19 Mar 88	Paired with 87D0951
	26 Mar 88	Removed from 87D0951; Paired with 87D0935
	2 Apr 88	Removed from 87D0935; Paired with 87D0847
	9 Apr 88	Removed from 87D0847
	11 Apr 88	Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0952	1 Dec 87	Weaned from 87D0550
	8 Dec 87;11,27,29-31 Jan 88	Red-stained nose
	1-4,17 Feb	" "
	1-5,12,25,28,29,31 Mar 88	" "
	1,4,6,8,12,14,25-30 Apr 88	" "
	1,2,4,6,11,16 May 88	" "
	13 Jan 88	Aggressive
	17,29 Jan;9,12 Feb;13 Mar 88	Irritable
	9-24 Feb 88	Infection, eartag site
	19 Mar 88	Paired with 87D0949
	26 Mar 88	Removed from 87D0949; Paired with 87D0879
	2 Apr 88	Removed from 87D0879; Paired with 87D0857
	8 Apr 88	Sperm positive
	15-16 Apr 88	Hair loss from limbs
	1 May 88	Gave birth
	16 May 88	Red-stained eye
	23 May 88	Euthanized
87D00956	3 Dec 87	Weaned from 87D0446
	4 Dec 87;10,13,28 Apr 88	Red-stained nose
	13,19-22,27 Jan;16,17 Feb 88	Irritable
	9,23 Mar 88	"
	31 Jan-4,17-24 Feb 88	Hair loss from limbs
	1,2,4-31 Mar 88	" " " "
	1-4,14-16 Apr 88	" " " "
	25 Feb 88	Red-stained eyes
	20 Mar 88	Paired with 87D0969
	23 Mar 88	Sperm positive;
	14 Apr 88	Gave birth
	6 May 88	Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - FEMALES

Control Animals

Animal ID	Date(s)	Signs
87D0970	12 Dec 87	Weaned from 87D0523
	23-24 Dec 87; 6, 7 Jan 88	Irritable
	18, 25, 26 Feb; 30 Mar 88	"
	6 Jan 88	Red-stained eye
	12 Jan; 31 Mar 88	Red-stained nose
	6, 7, 27-29 Apr; 5 May 88	" "
	20 Mar 88	Paired with 87D0955
	23 Mar 88	Sperm positive
	14 Apr 88	Gave birth
	6 May 88	Euthanized
87D0972	13 Dec 87	Weaned from 87D0520
	16-17, 28 Feb 88	Red-stained nose
	5-7, 11, 14 Apr 88	" "
	17 Feb; 8 Mar 88	Irritable
	20 Mar 88	Paired with 87D0977
	22 Mar 88	Sperm positive
	13 Apr 88	Gave birth
87D0978	6 May 88	Euthanized
	16 Dec 87	Weaned from 87D0525
	24 Jan; 3-5 Mar 88	Irritable
	8, 10 Mar, 13 Apr 88	Red-stained nose
	20 Mar 88	Paired with 87D0971
	22 Mar 88	Sperm positive
	14 Apr 88	Gave birth
	15 Apr 88	Nipples not prominent
	16 Apr 88	All pups dead
	18 Apr 88	Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F₁ GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0808	15 Nov 87	Weaned from 87D0424
	15 Feb 88	Irritable
	2-3 Mar 88	Hair loss from limbs
	13,16 Mar;26 Apr;2 May 88	Red-stained nose
	15 Mar 88	Paired with 87D0827
	21 Mar 88	Sperm positive
	28 Mar;9-13 Apr 88	Red-stained eye
	12 Apr 88	Gave birth
	4 May 88	Euthanized
87D0828	16 Nov 87	Weaned from 87D0463
	19,30 Nov;14,16,17,20 Dec 87	Red-stained nose
	7,8,13,16,20,28 Jan 88	" "
	9-16 Feb;4-6,9,10,13 Mar 88	" "
	1,2,4-6 Apr 88	" "
	16 Feb 88	Red-stained limb
	14 Mar 88	Paired with 87D0807
	15 Mar 88	Sperm positive
	21 Mar;4,5 Apr 88	Red-stained eye
	8 Apr 88	Red-stained bedding
	10 Apr 88	Dead pup found, date of birth unknown
	11 Apr 88	Euthanized
87D0844	19 Nov 87	Weaned from 87D0464
	25 Nov;4-6,9,10 Dec 87	Red-stained nose
	8,9 Jan;3,4,11,20 Feb 88	" "
	16,23,25 Mar;13,16,23,25 Apr 88	" "
	16 May 88	" "
	20-22 Jan;17-21 Feb 88	Hair loss from limbs
	23 Jan;8 Mar 88	Irritable
	16 Mar 88	Red-stained head;
		Paired with 87D0853
	23 Mar 88	Removed from 87D0853;
		Paired with 87D0807
	30 Mar 88	Removed from 87D0807;
		Paired with 87D0827
	5 Apr 88	Sperm positive
	27 Apr 88	Gave birth
	29 Apr-2 May 88	Nipples not prominent
	19 May 88	Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F₁ GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0854	20 Nov 87	Weaned from 87D0475
	13 Jan 88	Aggressive
	15,20,21 Feb;11,16 Mar 88	Red-stained nose
	8 Mar 88	Hair loss from limbs
	15 Mar 88	Paired with 87D0843
	16 Mar 88	Sperm positive
	8 Apr 88	Gave birth;
		Red-stained tail
	2 May 88	Euthanized
87D0864	22 Nov 87	Weaned from 87D0452
	26-27 Jan;12,17,25-27 Mar 88	Red-stained eye
	13 Apr 88	" "
	27 Jan 88	Red-stained nose
	9,10,17,18,21,23,24,28 Mar 88	" "
	6,11,13,14,27 Apr;2 May 88	" "
	11-18 Feb;24 Feb-3 May 88	Hair loss from limbs
	17-23 Feb 88	Infection, eartag site
	16 Mar 88	Paired with 87D0865
	17,21 Mar 88	Irritable
	21 Mar 88	Sperm positive
87D0866	12 Apr 88	Gave birth
	4 May 88	Euthanized
	22 Nov 87	Weaned from 87D0473
	28 Jan;17 Feb 88	Debris in eye
	16,26-29 Feb;16 Mar;13 Apr 88	Red-stained nose
	16 Mar 88	Paired with 87D0863
	19 Mar 88	Sperm positive
		Irritable
	10 Apr 88	Gave birth
	3 May 88	Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0886	25 Nov 87	Weaned from 87D0518
	7, 9-11, 14, 17-21 Dec 87	Irritable
	7, 9, 13, 15, 18, 20, 21, 23, 27, 28 Jan 88	"
	16, 17, 25-27 Feb; 7-9, 11, 16 Mar 88	"
	14, 23-25 Dec 87	Red-stained nose
	7-8, 11-13, 18-22, 28, 29 Jan 88	" "
	5-8, 16-18, 23-25 Feb 88	" "
	1-19, 21-26, 28-31 Mar 88	" "
	1-16, 25-27, 29 Apr 88	" "
	1-6, 9-13, 15 May 88	" "
	14-15, 17-22 Jan 88	Hair loss from limbs
	25 Feb-15 May 88	" " " "
	17 Mar 88	Paired with 87D0891
	18-19 Mar 88	Front paw digits swollen
	24 Mar 88	Removed from 87D0891; Paired with 87D0853
	25 Mar-15 May 88	Swollen lower lip
	31 Mar 88	Removed from 87D0853; Paired with 87D0843
	2 Apr 88	Sperm positive
	24 Apr 88	Gave birth
	6 May 88	Diarrhea
	10-15 May 88	Brown-stained tail
	16 May 88	Euthanized
87D0892	26 Nov 87	Weaned from 87D0501
	9-10 Dec 87; 20 Jan 88	Irritable
	17, 24 Feb; 23 Mar 88	"
	14 Dec 87; 18, 25, 28 Mar; 10 Apr 88	Red-stained nose
	17 Mar 88	Paired with 87D0885
	22 Mar 88	Sperm positive; Red-stained eye
	14 Apr 88	Gave birth
	6 May 88	Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F₁ GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0900	26 Nov 87	Weaned from 87D0522
	5-7, 17, 24 Feb 88	Red-stained nose
	2, 10, 11, 13, 17, 19, 20, 23 Mar 88	" "
	28, 29 Mar; 1 Apr 88	" "
	17 Mar 88	Paired with 87D0901
	18 Mar 88	Sperm positive
	10 Apr 88	Gave birth
	10-12 Apr 88	Nipples not prominent
	12 Apr 88	All pups dead
	13 Apr 88	Euthanized
87D0902	27 Nov 87	Weaned from 87D0448
	27 Nov 87; 13, 17, 24, 29 Mar 88	Red-stained nose
	7 Mar 88	Red-stained eye
	16, 19 Mar 88	Irritable
	17 Mar 88	Paired with 87D0899
	19 Mar 88	Sperm positive;
	11 Apr 88	Gave birth
	3 May 88	Euthanized
87D0904	27 Nov 87	Weaned from 87D0499
	9-10 Dec 87; 9, 10, 24, 25 Feb 88	Irritable
	9, 11, 22, 25 Mar 88	"
	11, 24 Feb 88	Red-stained nose
	9, 11, 16-20, 22-24 Mar 88	" "
	6, 7, 14, 15, 18, 25, 26, 28-30 Apr 88	" "
	1, 2 May 88	" "
	18 Mar 88	Paired with 87D0907
	23 Mar 88	Sperm positive
	14 Apr 88	Gave birth
	15 Apr 88	Nipples not prominent
	6 May 88	Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0908	28 Nov 87	Weaned from 87D0502
15 Dec 87; 29 Jan; 15, 25 Apr 88	11 Jan 88	Red-stained nose
4-5, 19, 20, 23 Mar 88	17 Mar 88	Dehydrated
	18 Mar 88	Irritable
	20 Mar 88	Paired with 87D0903
	11 Apr 88	Red-stained head
	3 May 88	Sperm positive
		Gave birth
		Euthanized
87D0914	28 Nov 87	Weaned from 87D0536
9-10 Dec 87; 28 Jan 88	18 Mar 88	Irritable
	25 Mar 88	Paired with 87D0925
	1 Apr 88	Removed from 87D0925;
		Paired with 87D0891
	5 Apr 88	Removed from 87D0891;
	12 Apr 88	Paired with 87D0863
	27 Apr 88	Sperm positive
	19 May 88	Red-stained eye
		Gave birth
		Euthanized
87D0926	29 Nov 87	Weaned from 87D0531
9-10, 17-20 Dec 87	17 Feb; 19-21, 23, 26, 30 Mar 88	Irritable
17-19 Dec 87; 29 Jan 88	17, 18 Feb; 20, 24 Mar 88	"
5, 8-10, 16, 29, 30 Apr 88	17-19 Dec 87	Red-stained nose
	16, 21, 24, 25 Mar 88	" "
25, 27, 28 Apr 88	25, 27, 28 Apr 88	" "
18 Mar 88		Aggressive
20 Mar 88		Red-stained head
11 Apr 88		" "
3 May 88		Paired with 87D0913
		Sperm positive
		Gave birth
		Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0928	29 Nov 87	Weaned from 87D0534
	29 Jan;17 Feb;20 Mar 88	Red-stained nose
	19 Mar 88	Paired with 87D0945
	24 Mar 88	Sperm positive; Irritable
	15 Apr 88	Gave birth
	9 May 88	Euthanized
87D0942	30 Nov 87	Weaned from 87D0449
	27-28 Jan 88	Hair loss from limbs
	28 Jan;20,28,29 Mar 88	Red-stained nose
	6,7,11 Apr 88	" "
	31 Jan-2 Feb;6 Apr 88	Irritable
	18 Mar 88	Paired with 87D0927
	21 Mar 88	Sperm positive
	11,12,14,15 Apr 88	Red-stained eye
	12 Apr 88	Gave birth
	13-14 Apr 88	Nipples not prominent
	4 May 88	Euthanized
87D0948	30 Nov 87	Weaned from 87D0549
	16 Dec 87;11,20,27 Jan 88	Irritable
	25 Feb;21 Mar;13 Apr 88	" "
	17,21-23 Mar;8,16,28 Apr 88	Red-stained nose
	20 Mar 88	Paired with 87D0957
	23 Mar 88	Sperm positive
	13 Apr 88	Gave birth; Aggressive
	5 May 88	Euthanized
87D0958	4 Dec 87	Weaned from 87D0495
	6,12 Jan;24,29 Mar 88	Red-stained nose
	1-3,15,16 Apr 88	" "
	13 Jan 88	Aggressive
	28-29 Jan;25 Feb;21,23 Mar 88	Irritable
	19 Mar 88	Paired with 87D0947
	21 Mar 88	Sperm positive;
	18 Apr 88	Did not give birth; Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

1.3 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0960	6 Dec 87	Weaned from 87D0476
	27-28 Dec 87; 6 Jan 88	Red-stained nose
	5-7, 11, 17 Feb 88	" "
	20, 21, 24, 28, 30 Mar 88	" "
	10, 13 Apr; 2 May 88	" "
	8 Feb 88	Red-stained head
	20 Mar 88	Paired with 87D0963
	22 Mar 88	Sperm positive
	13 Apr 88	Gave birth;
	5 May 88	Euthanized
87D0964	9 Dec 87	Weaned from 87D0488
	9, 10 Dec 87; 13, 16, 27 Jan 88	Red-stained nose
	12, 19, 22, 23, 25, 29, 30 Mar 88	" "
	10-11 Apr 88	" "
	13 Jan 88	Debris in eye
	27 Jan 88	Red-stained eye
	20, 23 Mar 88	Red-stained ear;
	20 Mar 88	Paired with 87D0959
	22 Mar 88	Sperm positive
	6 Apr 88	Red-stained head
	13 Apr 88	Gave birth
	14 Apr 88	Red material, vaginal area
	5 May 88	Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0804	14 Nov 87	Weaned from 87D0432
	26 Jan; 22, 31 Mar 88	Red-stained nose
	1, 4, 6, 29 Apr 88	" "
	17 Feb 88	Red-stained eye
	3 Mar 88	Irritable
	14 Mar 88	Paired with 87D0805
	17 Mar 88	Sperm positive
	23 Mar; 9, 14, 21 Apr 88	Red-stained head
	1-3 Apr 88	Hair loss from limbs
	9 Apr 88	Gave birth;
		Red-stained tail
	2 May 88	Euthanized
87D0806	15 Nov 87	Weaned from 87D0420
	15 Dec 87; 17 Feb 88	Red-stained nose
	15, 16, 29 Mar 88	" "
	11 Feb 88	Irritable
	17-18, 24-27 Feb 88	Hair loss from limbs
	1 Mar-4 Apr 88	" " " "
	14 Mar 88	Paired with 87D0803
	17 Mar 88	Red-stained head
	21 Mar 88	Removed from 87D0803;
		Paired with 87D0811
	28 Mar 88	Removed from 87D0811;
		Paired with 87D0817
87D0812	4 Apr 88	Removed from 87D0817
		Euthanized
	15 Nov 87	Weaned from 87D0443
	15 Dec 87; 16, 18, 27, 28 Jan 88	Red-stained nose
	16, 17, 24, 25 Feb 88	" "
	8, 16, 17, 23, 28 Mar 88	" "
	5, 13, 15, 29 Apr 88	" "
	28 Jan 88	Red-stained eye
	4-5 Mar 88	Irritable
	14 Mar 88	Paired with 87D0817
	17 Mar 88	Sperm positive
	8 Apr 88	Gave birth
	10 Apr 88	Nipples not prominent
	2 May 88	Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F₁ GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0818	16 Nov 87	Weaned from 87D0427
	18,24 Nov 87;14 Dec 87	Red-stained nose
	4,14,15 Jan;25 Feb 88	" "
	2,8,16,17,20,21,23-25,31 Mar 88	" "
	4 Apr 88	" "
	9-10 Feb 88	Hair loss from limbs
	14 Mar 88	Paired with 87D0811
	21 Mar 88	Removed from 87D0811
		Paired with 87D0803
	28 Mar 88	Removed from 87D0803;
		Paired with 87D0825
	4 Apr 88	Removed from 87D0825
		Euthanized
87D0826	16 Nov 87	Weaned from 87D0435
	18,19,30 Nov;17-21,29 Dec 87	Red-stained nose
	2,3,18,27 Jan;17,23,25 Feb 88	" "
	2,10,11,18,22,28 Mar 88	" "
	1-3,6,7,29 Apr;1,2,9 May 88	" "
	23-25 Nov 87	Hair loss from limbs
	17 Dec 87-14,16-29 Feb 88	" " " "
	1-6,13,17-21 Mar 88	" " " "
	11,12,14 Apr 88	" " " "
	15 Feb 88	Red-stained eye
	15 Mar 88	Paired with 87D0835
	22 Mar 88	Removed from 87D0835;
		Paired with 87D0845
	26 Mar 88	Sperm positive
	17 Apr 88	Gave birth
	29 Apr-9 May 88	Axillary mass
	9 May 88	Brown-stained tail
	10 May 88	Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F₁ GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0836	18 Nov 87	Weaned from 87D0456
	20 Jan;17,18,25-29 Feb 88	Red-stained nose
	4,7,13,17-19,23 Mar 88	" "
	4,6,15 Apr 88	" "
	17 Feb 88	Aggressive
	17 Feb;15,18,19 Mar 88	Irritable
	14 Mar 88	Paired with 87D0825
	17 Mar 88	Sperm positive
	8 Apr 88	Gave birth
	2 May 88	Euthanized
87D0840	19 Nov 87	Weaned from 87D0459
	2 Dec 87;16,17,20 Feb 88	Irritable
	16-20 Dec 87;6,18,27 Jan 88	Red-stained nose
	8,17 Feb 88	" "
	2,8,10,12,18,19,21 Mar 88	" "
	9 Apr;5,9,10 May 88	" "
	18-22,24-31 Jan;1-5 Feb 88	Hair loss from limbs
	9 Feb-15 May 88	" " " "
	27 Jan;3,8, Feb 88	Hyperactive
	8 Feb 88	Red-stained head
	17-18 Feb;4 Mar 88	Scabs, front limbs
	15 Mar 88	Paired with 87D0845
	22 Mar 88	Removed from 87D0845;
		Paired with 87D0835
	29 Mar 88	Removed from 87D0835;
		Paired with 87D0849
	1 Apr 88	Sperm positive;
		Yellow material, perianal
	23 Apr 88	Gave birth
	30 Apr;2,3 May 88	Nipples not prominent
	16 May 88	Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0846	19 Nov 87	Weaned from 87D0469
	15 Feb 88	Red-stained nose
	26-29 Feb 88	Hair loss from limbs
	15 Mar 88	Paired with 87D0839
	16 Mar 88	Red-stained head
	17 Mar 88	Sperm positive
	8 Apr 88	Gave birth
	2 May 88	Euthanized
87D0850	20 Nov 87	Weaned from 87D0466
	2-6, 9, 10 Dec 87; 27 Jan 88	Irritable
	9, 10 Dec 87; 27 Jan 88	Red-stained nose
	3, 16 Feb; 3, 18, 19, 25 Mar 88	" "
	27 Jan; 17, 23 Mar 88	Red-stained eye
	16 Mar 88	Paired with 87D0859
	23 Mar 88	Removed from 87D0859;
		Paired with 87D0805
	24 Mar 88	Red-stained head;
87D0860		Sperm positive
	19 Apr 88	Did not give birth;
		Euthanized
	21 Nov 87	Weaned from 87D0478
	23 Nov 87; 18, 30 Jan 88	Red-stained nose
	5-7, 17, 24 Feb 88	" "
	16, 17, 20, 22 Mar; 1 Apr 88	" "
	14-16, 18 Jan 88	Red-stained head
	5 Feb 88	Head injured in feeder;
		dried blood, face, paws
	25 Feb 88	Red-stained eye;
		Red material on ear
	3 Mar 88	Irritable
	15 Mar 88	Paired with 87D0849
	16 Mar 88	Sperm positive
	18-19 Mar 88	Red-stain near ear
	11 Apr 88	Did not give birth;
		Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F₁ GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0870	23 Nov 87	Weaned from 87D0490
	20-22 Jan;18 Mar 88	Red-stained nose
	26-29 Feb;2 Mar 88	Irritable
	17 Mar 88	Paired with 87D0881
	17-18 Mar 88	Red-stained eye
	23 Mar 88	Red-stained head
	24 Mar 88	Removed from 87D0881; Paired with 87D0859
	31 Mar 88	Removed from 87D0859; Paired with 87D0839
	7 Apr 88	Removed from 87D0839; Euthanized
87D0882	25 Nov 87	Weaned from 87D0471
	16 Dec 87;6,14,15,28 Jan 88	Red-stained nose
	8-10,25 Feb 88	" "
	2,3,7,12,17-19,22 Mar 88	" "
	13,15,29 Apr 88	" "
	27 Jan;11 Feb;6 Apr 88	Irritable
	13 Mar 88	Red-stained limb
	16 Mar 88	Paired with 87D0869
	20 Mar 88	Sperm positive
	11 Apr 88	Gave birth
	3 May 88	Euthanized
87D0888	26 Nov 87	Weaned from 87D0480
	17 Dec 87;30 Jan-2 Feb 88	Red-stained nose
	8 Feb;17,22 Mar 88	" "
	17 Mar 88	Paired with 87D0889
	19 Mar 88	Sperm positive
	13 Apr 88	Did not give birth; Euthanized
87D0890	26 Nov 87	Weaned from 87D0494
	17 Mar 88	Paired with 87D0887
	18 Mar;6,7,20 Apr;2 May 88	Red-stained nose
	20 Mar 88	Sperm positive
	11 Apr 88	Gave birth
	3 May 88	Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0906	27 Nov 87	Weaned from 87D0511
	14-15,20,27 Jan;11,13 Apr 88	Red-stained nose
	18 Mar 88	Paired with 87D0909
	19 Mar 88	Sperm positive
	11 Apr 88	Gave birth
	3 May 88	Euthanized
87D0910	28 Nov 87	Weaned from 87D0515
	27 Jan 88	Red-stained nose; Red-stained head
	24 Feb 88	Aggressive
	25 Feb 88	Irritable
	18 Mar 88	Paired with 87D0905
	25 Mar 88	Removed from 87D0905; Paired with 87D0881
	1 Apr 88	Removed from 87D0881; Paired with 87D0849
	6 Apr 88	Sperm positive
	28 Apr 88	Gave birth
	20 May 88	Euthanized
87D0918	28 Nov 87	Weaned from 87D0547
	31 Jan 88	Irritable
	9-10 Feb;2;24 Mar 88	Red-stained nose
	5,29 Apr;3 May 88	" "
	18 Mar 88	Paired with 87D0919
	20 Mar 88	Sperm positive
	28 Mar 88	Red-stained head
	12 Apr 88	Gave birth
	29 Apr 88	Red-stained eye
	4 May 88	Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0920	29 Nov 87	Weaned from 87D0417
18 Jan;26-29 Feb;9,18 Mar 88		Red-stained nose
13,29,30 Apr;3,6,7 May 88		" "
29 Jan;8,11-15,17,26-29 Feb 88		Red-stained head
8,10,17,18,21 Mar;4 May 88		" "
16 Feb 88		Hair loss from limbs
4,9,11 Mar 88		Red-stained eye
18 Mar 88		Paired with 87D0917
24 Mar 88		Sperm positive
16 Apr 88		Gave birth
9 May 88		Euthanized
87D0930	29 Nov 87	Weaned from 87D0537
16,19 Dec 87;29 Jan 88		Red-stained nose
17,24 Feb;23,31 Mar 88		" "
1,4,21,26 Apr;4,18 May 88		" "
17 Feb;22,23 Mar 88		Red-stained head
24 Feb 88		Red-stained eye
26 Feb 88		Irritable
19 Mar 88		Paired with 87D0943
26 Mar 88		Removed from 87D0943;
		Paired with 87D0967
2 Apr 88		Removed from 87D0967;
		Paired with 87D0887
8 Apr 88		Sperm positive
30 Apr 88		Gave birth
23 May 88		Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F₁ GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0944	30 Nov 87	Weaned from 87D0526
	28 Jan;11 Feb;20,22 Mar 88	Red-stained nose
	6 Apr;5 May 88	" "
	28 Jan,23 Mar 88	Red-stained head
	19 Mar 88	Paired with 87D0929
	24 Mar 88	Presumed date of breeding, sperm not detected in vaginal smear
	26 Mar 88	Removed from 87D0929; Paired with 87D0905
	29 Mar 88	Hair loss from limbs
	2 Apr 88	Removed from 87D0905; Paired with 87D0869
	7-9 Apr 88	Blood on vaginal swab
	15 Apr 88	Gave birth
	9 May 88	Euthanized
87D0966	10 Dec 87	Weaned from 87D0508
	29 Jan;11,17 Feb 88	Irritable
	9,25 Mar;15,18 Apr 88	"
	20 Mar 88	Paired with 87D0973
	22,25 Mar;3 May 88	Red-stained nose
	22 Mar;4 Apr 88	Red-stained head
	23 Mar 88	Sperm positive
	14 Apr 88	Gave birth
	6 May 88	Euthanized
87D0968	10 Dec 87	Weaned from 87D0527
	8-9,12 Jan;17 Feb 88	Red-stained nose
	7,18,19,23,30 Mar 88	" "
	1,6 Apr;2,18 May 88	" "
	16 Feb;7 Mar 88	Irritable
	20 Mar 88	Paired with 87D0965
	27 Mar 88	Removed from 87D0965; Paired with 87D0943
	3 Apr 88	Removed from 87D0943; Paired with 87D0889
	9 Apr 88	Sperm positive
	1 May 88	Gave birth
	23 May 88	Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F₁ GENERATION - FEMALES

4.0 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0974	14 Dec 87	Weaned from 87D0543
	23-24 Jan 88	Irritable
	28 Jan 88	Red-stained eye
	9-10 Feb; 25-27 Mar 88	Hair loss from limbs
	24 Feb 88	Red-stained nose
	9-11, 15, 21, 24, 29 Mar 88	" "
	14 Apr 88	" "
	20 Mar 88	Paired with 87D0967
	22 Mar 88	Sperm positive
	18 Apr 88	Did not give birth; Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0816	16 Nov 87	Weaned from 87D0426
	25 Nov 87;23,30,31 Mar 88	Red-stained nose
	4 Apr 88	" "
	16-29 Dec 87	Hair loss from limbs
	27 Jan;10,23,29 Mar;4 Apr 88	Brown-stained body
	14 Mar 88	Paired with 87D0819
	15 Mar 88	Sperm positive
	7 Apr 88	Gave birth
	9,16 Apr 88	Aggressive
	29 Apr 88	Euthanized
87D0820	16 Nov 87	Weaned from 87D0429
	18-22 Jan;15-29 Apr 88	Hair loss from limbs
	3,5-7 Feb 88	Hyperactive
	3,24 Feb;16 Mar 88	Irritable
	14 Mar 88	Paired with 87D0815
	20 Mar 88	Debris in eye
	21 Mar 88	Removed from 87D0815;
		Paired with 87D0823
	24 Mar 88	Sperm positive
	15 Apr 88	Gave birth
	14,16-18 Apr 88	Scab on front limbs
	16-18 Apr;4 May 88	Red-stained nose
	9 May 88	Euthanized
87D0824	16 Nov 87	Weaned from 87D0434
	4,6-23 Jan 88	Hair loss from limbs
	27 Jan-3 May 88	" " " "
	3,23,25 Mar;13 Apr;3 May 88	Red-stained nose
	15 Mar 88	Paired with 87D0833
	20 Mar 88	Sperm positive
	12 Apr 88	Gave birth
	4 May 88	Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0834	18 Nov 87	Weaned from 87D0450
	7 Dec 87; 17 Feb 88	Red-stained nose
	10, 13, 15, 23, 30, 31 Mar 88	" "
	4, 6, 8 Apr 88	" "
	16 Feb 88	Irritable
	14 Mar 88	Paired with 87D0823
	15 Mar 88	Sperm positive
	7 Apr 88	Gave birth
	29 Apr 88	Euthanized
87D0852	20 Nov 87	Weaned from 87D0467
	23, 25 Nov; 7-10, 14, 16 Dec 87	Red-stained nose
	18, 28, 29 Jan 88	" "
	8, 11, 16, 24, 26-28 Feb 88	" "
	1-4, 8-11, 13, 16, 17, 28, 29 Mar 88	" "
	1, 6, 12-14, 29 Apr 88	" "
	17 Jan-12 Mar 88	Hair loss from limbs
	17 Mar-1 May 88	" " " "
	24-25 Feb; 2 Mar 88	Red-stained head
	16 Mar 88	Paired with 87D0855
	8 Apr 88	Gave birth
	9, 10 Apr 88	Red-stained tail
	2 May 88	Euthanized
87D0856	20 Nov 87	Weaned from 87D0477
	20 Nov 87; 11 Feb; 29 Mar 88	Red-stained nose
	17 Jan; 19 Jan-24 Apr 88	Hair loss from limbs
	2 Mar 88	Irritable
	15 Mar 88	Paired with 87D0851
	16 Mar 88	Sperm positive
	8 Apr 88	Gave birth
	2 May 88	Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F₁ GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0868	22 Nov 87	Weaned from 87D0500
	23 Nov 87;13-15,18,28 Jan 88	Red-stained nose
	25 Feb;11,16,17 Mar 88	" "
	23 Nov 87;26 Feb	Irritable
	2,19,26 Mar;13-15,18 Apr 88	"
	16 Mar 88	Paired with 87D0873
	19 Mar 88	Sperm positive;
	12 Apr 88	Gave birth
	4 May 88	Euthanized
87D0874	23 Nov 87	Weaned from 87D0505
	17-19 Dec 87	Red-stained nose
	17,18 Feb;17,18,21 Mar 88	" "
	15 Apr;6 May 88	" "
	17 Jan 88	Increased startle reflex
	16-17,24 Feb;8,18,22 Mar 88	Irritable
	16 Mar 88	Paired with 87D0867
	23 Mar 88	Removed from 87D0867;
		Paired with 87D0815
	25,28-31 Mar 88	Hair loss from limbs
	28 Mar 88	Red-stained head
	30 Mar 88	Removed from 87D0815;
		Paired with 87D0819
87D0884	2 Apr 88	Sperm positive
	24 Apr 88	Gave birth
	16 May 88	Euthanized
	25 Nov 87	Weaned from 87D0504
	7 Dec 87	Irritable
	17 Mar 88	Paired with 87D0893
	18 Mar 88	Sperm positive
	23 Mar 88	Red-stained nose
	10 Apr 88	Gave birth
	3 May 88	Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0894	26 Nov 87	Weaned from 87D0506
	2,21 Dec 87;18 Mar 88	Red-stained nose
	17 Mar 88	Paired with 87D0883
	18 Mar 88	Red-stained head
	24 Mar 88	Removed from 87D0883;
		Paired with 87D0867
	26 Mar 88	Sperm positive
	18 Apr 88	Gave birth
	10 May 88	Euthanized
87D0896	26 Nov 87	Weaned from 87D0510
	21 Dec 87;27 Jan 88	Red-stained nose
	2,8,10,13,30 Mar;5 Apr 88	" "
	4 Jan 88	Dehydrated
	16,18,29 Jan;11,17,24 Feb 88	Irritable
	31 Jan-4 Feb;7 Feb 88	Hair loss from limbs
	17 Mar 88	Paired with 87D0897
	19 Mar 88	Sperm positive
	10 Apr 88	Gave birth
	12 Apr 88	Nipples not prominent;
		All pups dead
	13 Apr 88	Euthanized
87D0898	26 Nov 87	Weaned from 87D0513
	4-5 Dec 87;27 Jan 88	Red-stained nose
	17,18,25 Mar;6,7,29 Apr 88	" "
	11-12 Jan 88	Increased startle reflex
	29 Jan 88	Red-stained eye
	17 Mar 88	Paired with 87D0895
	19 Mar 88	Sperm positive
	10 Apr 88	Gave birth
	3 May 88	Euthanized
87D0912	28 Nov 87	Weaned from 87D0528
	13,29 Jan;17,18,20 Feb 88	Red-stained nose
	19 Mar 88	" "
	18 Mar 88	Paired with 87D0923
	19 Mar 88	Sperm positive
	13 Apr 88	Did not give birth;
		Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0924	29 Nov 87	Weaned from 87D0517
	1 Dec 87; 13-15, 19 Jan 88	Red-stained nose
	11, 15-18 Feb 88	" "
	4, 9, 20, 23, 28-31 Mar 88	" "
	12, 13, 15 Apr 88	" "
	24 Feb 88	Irritable
	18 Mar 88	Paired with 87D0911
	25 Mar 88	Removed from 87D0911; Paired with 87D0883
	28 Mar 88	Red-stained head
	1 Apr 88	Sperm positive
	16-19 Apr 88	Hair loss from limbs
	24 Apr 88	Gave birth; All pups dead
	26 Apr 88	Euthanized
87D0932	29 Nov 87	Weaned from 87D0538
	17 Feb; 3 Mar 88	Irritable
	19 Mar 88	Paired with 87D0933
	23 Mar 88	Sperm positive
	31 Mar; 14 Apr 88	Red-stained nose
	14 Apr 88	Gave birth
	15 Apr 88	Nipples not prominent
	16 Apr 88	All pups dead
	18 Apr 88	Euthanized

Appendix G-4 (Cont.)
 INDIVIDUAL CLINICAL SIGNS
 F1 GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0934	29 Nov 87	Weaned from 87D0539
	7 Dec 87; 30 Apr-1 May 88	Aggressive
	27 Jan; 5 Apr 88	Red-stained head
	28 Jan; 9, 24, 27-29 Feb 88	Red-stained nose
	3, 12, 22, 28, 31 Mar 88	" "
	5-7, 13 Apr; 2, 6 May 88	" "
	5-7 Feb 88	Hair loss from limbs
	16 Feb-2 Mar 88	" " " "
	4 Mar-5 Apr 88	" " " "
	12-19 Apr; 5 May 88	" " " "
	9, 24 Mar 88	Irritable
	9, 11 Mar 88	Red-stained eye
	19 Mar 88	Paired with 87D0931
	26 Mar 88	Removed from 87D0931;
		Paired with 87D0911
	2 Apr 88	Removed from 87D0911;
		Paired with 87D0855
	5 Apr 88	Sperm positive
	15-18 Apr 88	Yellow material, perianal
	27 Apr 88	Gave birth
	19 May 88	Euthanized
87D0954	2 Dec 87	Weaned from 87D0414
	2, 4-13 Dec 87	Hair loss from limbs
	3, 25 Mar 88	Red-stained nose
	20 Mar 88	Paired with 87D0975
	24 Mar 88	Sperm positive
	19 Apr 88	Did not give birth; Euthanized

Appendix G-4 (Cont.)
INDIVIDUAL CLINICAL SIGNS
F1 GENERATION - FEMALES

12.7 ppt Nitroguanidine Animals

Animal ID	Date(s)	Signs
87D0962	8 Dec 87	Weaned from 87D0503
	24-25 Jan 88	Irritable
	16-18, 20, 26, 27 Feb; 16 Mar 88	"
	25 Jan; 9, 26-29 Feb 88	Red-stained nose
	13, 22, 25, 28, 30 Mar 88	" "
	15 Apr 88	" "
	9-10 Feb 88	Hair loss from limbs
	13, 22, 24 Mar 88	Red-stained head
	19 Mar 88	Paired with 87D0953
	21 Mar 88	Brown-stained body
	25 Mar 88	Red-stained eye
	26 Mar 88	Removed from 87D0953;
		Paired with 87D0931
	2 Apr 88	Removed from 87D0931;
		Paired with 87D0873
	4 Apr 88	Sperm positive
	26 Apr 88	Gave birth
87D0976	30 Apr-2 May 88	Nipples not prominent
	3 May 88	All pups dead
	5 May 88	Euthanized
	15 Dec 87	Weaned from 87D0540
	27 Jan; 9, 26-29 Feb 88	Red-stained nose
87D0976	3, 24 Mar; 6, 15-17, 29 Apr 88	" "
	2 May 88	" "
	5 Feb-8 May 88	Hair loss from limbs
	20 Mar 88	Paired with 87D0961
	23 Mar 88	Red-stained head
	24 Mar 88	Sperm positive
	14 Apr 88	Red-stained eye
	15 Apr 88	Gave birth
	9 May 88	Euthanized

Appendix H-1
Male Breeding Data
 Parental Generation
 Control Animals

Male ID	Days Paired	Female		
		Sperm Positive	Pregnant	Gave Birth
87D0312	7	No		
	1	Yes	Yes	Yes
87D0318	7	No		
	7	No		
	7	No		
87D0324	2	Yes	Yes	Yes
	7	No		
87D0328	1	Yes	Yes	Yes
	1	Yes	No	
87D0330	1	Yes	Yes	Yes
	5	Yes	Yes	Yes
87D0336	1	Yes	Yes	Yes
	7	No		
87D0339	3	Yes	No	
	1	Yes	No	
87D0347	3	Yes	Yes	Yes
	3	Yes	Yes	Yes
87D0349	4	Yes	Yes	Yes
	1	Yes	No	
87D0353	7	No		
	4	Yes	Yes	Yes
87D0354	3	Yes	Yes	Yes
87D0356	7	No		
	7	No		
87D0358	3	Yes	Yes	Yes
	3	Yes	Yes	Yes

Appendix H-1 (Cont.)
Male Breeding Data
 Parental Generation
 Control Animals

Male ID	Days Paired	Female		Gave Birth
		Sperm Positive	Pregnant	
87D0364	7	No		
	7	No		
	4	Yes	No	
87D0368	1	Yes	No	
	1	Yes	Yes	Yes
87D0371	1	Yes	Yes	Yes
	4	Yes	Yes	Yes
87D0373	7	No		
	1	Yes	Yes	Yes
	3	Yes	Yes	Yes
87D0377	7	No		
	1	Yes	Yes	Yes
	3	Yes	Yes	Yes
87D0379	1	Yes	Yes	Yes
	7	No		
87D0392	1	Yes	Yes	Yes
	7	No		
87D0394	2	Yes	Yes	Yes
	7	Yes	Yes	Yes
87D0395	3	Yes	Yes	Yes
87D0405	7	No		
	7	No		
87D0407	2	Yes	Yes	Yes
87D0408	7	No		
	7	No		

Appendix H-1 (Cont.)
Male Breeding Data
 Parental Generation
 1.3 ppt Nitroguanidine Animals

Male ID	Days Paired	Female		Gave Birth
		Sperm Positive	Pregnant	
87D0313	6	Yes	No	Yes
	3	Yes	Yes	
87D0314	3	Yes	Yes	Yes
	1	Yes	Yes	Yes
87D0317	1	Yes	No	Yes
	1	Yes	Yes	
87D0320	2	Yes	Yes	Yes
	1	Yes	Yes	Yes
87D0323	1	Yes	No	Yes
	1	Yes	Yes	
87D0326	7	No		
	7	No		
87D0329	7	No	Yes	Yes
	3	Yes		
	3	Yes		
87D0331	7	No	Yes	Yes
	1	Yes		
	7	No		
87D0332	1	Yes	No	
	7	No		
87D0342	1	Yes	Yes	Yes
	7	No		
87D0346	7	No	Yes	Yes
	4	Yes		
	6	Yes		
87D0348	1	Yes	Yes	Yes
	7	No		
87D0359	3	Yes	Yes	Yes
	2	Yes	Yes	Yes

Appendix H-1 (Cont.)
Male Breeding Data
 Parental Generation
 1.3 ppt Nitroguanidine Animals

Male ID	Days Paired	Female		
		Sperm Positive	Pregnant	Gave Birth
87D0366	2	Yes	No	
	2	Yes	Yes	Yes
87D0374	3	Yes	Yes	Yes
	7	No		
87D0375	1	Yes	Yes	Yes
87D0376	7	No		
	4	Yes	Yes	Yes
87D0378	7	No		
	2	Yes	Yes	Yes
87D0380	7	No		
	1	Yes	Yes	Yes
87D0381	1	Yes	No	
	1	Yes	Yes	Yes
87D0390	7	Yes	Yes	Yes
87D0396	7	No		
	2	Yes	Yes	Yes
87D0397	1	Yes	Yes	Yes
	7	No		
87D0406	7	No		
	3	Yes	Yes	Yes
87D0411	7	No		

Appendix H-1 (Cont.)
 Male Breeding Data
 Parental Generation
 4.0 ppt Nitroguanidine Animals

Male ID	Days Paired	Female		Gave Birth
		Sperm Positive	Pregnant	
87D0311	1	Yes	No	Yes
	2	Yes	Yes	
87D0315	7	No		
	7	No		
	7	No		
87D0316	3	Yes	Yes	Yes
	3	Yes	Yes	Yes
87D0319	1	Yes	Yes	Yes
	3	Yes	Yes	Yes
87D0322	2	Yes	Yes	Yes
	7	No		
87D0325	1	Yes	Yes	Yes
	3	Yes	Yes	Yes
87D0333	2	Yes	Yes	Yes
	7	No		
87D0338	1	Yes	No	Yes
	4	Yes	Yes	
87D0341	1	Yes	Yes	Yes
87D0350	6	Yes	No	
	7	No		
87D0355	2	Yes	No	Yes
	*	Yes	Yes	
87D0361	1	Yes	No	
	7	No		
87D0362	1	Yes	Yes	Yes
	7	Yes	Yes	Yes

*Sperm in vaginal smear not detected. Female gave birth.
 Date of breeding not known.

Appendix H-1 (Cont.)
Male Breeding Data
 Parental Generation
 4.0 ppt Nitroguanidine Animals

Male ID	Days Paired	Female		Gave Birth
		Sperm Positive	Pregnant	
87D0365	1	Yes	Yes	Yes
	2	Yes	Yes	Yes
87D0367	2	Yes	Yes	Yes
	7	No		
87D0370	1	Yes	Yes	Yes
	7	No		
87D0384	7	No		
	2	Yes	Yes	Yes
87D0386	5	Yes	Yes	Yes
	2	Yes	Yes	Yes
87D0389	1	Yes	Yes	Yes
	7	No		
87D0391	5	Yes	Yes	Yes
87D0398	3	Yes	No	
87D0399	1	Yes	No	
87D0401	2	Yes	Yes	Yes
87D0409	1	Yes	No	
87D0410	3	Yes	Yes	Yes
	2	Yes	No	

Appendix H-1 (Cont.)
Male Breeding Data
 Parental Generation
 12.7 ppt Nitroguanidine Animals

Male ID	Days Paired	Female		
		Sperm Positive	Pregnant	Gave Birth
87D0321	7	No		
	2	Yes	Yes	Yes
87D0327	4	Yes	No	
87D0334	7	No		
	1	Yes	Yes	Yes
87D0335	3	Yes	No	
	1	Yes	Yes	Yes
87D0337	1	Yes	No	
	5	Yes	No	
87D0340	2	Yes	Yes	Yes
	3	Yes	Yes	Yes
87D0343	1	Yes	Yes	Yes
	1	Yes	Yes	No
87D0344	1	Yes	Yes	Yes
	2	Yes	Yes	Yes
87D0345	2	Yes	Yes	
	1	Yes	No	No
87D0352	3	Yes	Yes	Yes
	6	Yes	Yes	Yes
87D0357	1	Yes	No	
	7	No		
87D0360	1	Yes	No	
	1	Yes	Yes	Yes
87D0363	3	Yes	Yes	Yes
	1	Yes	Yes	Yes
87D0372	2	Yes	Yes	Yes
	3	Yes	Yes	Yes

Appendix H-1. (Cont.)
Male Breeding Data
 Parental Generation
 12.7 ppt Nitroguanidine Animals

Male ID	Days Paired	Female		
		Sperm Positive	Pregnant	Gave Birth
87D0382	1	Yes	No	
	3	Yes	Yes	Yes
87D0383	7	No		
	1	Yes	No	
87D0385	1	Yes	No	
87D0387	3	Yes	No	
87D0388	1	Yes	No	
87D0393	1	Yes	Yes	Yes
87D0400	7	No		
	7	No		
	7	No		
87D0402	7	No		
	7	No		
87D0403	3	Yes	Yes	Yes
87D0404	1	Yes	Yes	Yes

Appendix H-2
Male Breeding Data
F₁ Generation
Control Animals

Male ID	Days Paired	Female		Gave Birth
		Sperm Positive	Pregnant	
87D0801	7	no		
	7	no		
87D0809	1	yes	no	
	5	yes	yes	yes
87D0813	1	yes	yes	yes
	7	no		
87D0821	3	yes	yes	yes
	7	no		
87D0829	3	yes	no	
	4	yes	no	
87D0831	7	no		
	7	no		
87D0837	1	yes	no	
	2	yes	no	
87D0841	7	no		
	7	no		
87D0847	3	yes	yes	yes
	7	no		
87D0857	2	yes	yes	yes
	6	yes	yes	yes
87D0861	2	yes	yes	yes
	2	yes	yes	yes
87D0871	2	yes	yes	yes
87D0875	6	yes	yes	yes
87D0877	4	yes	yes	yes

Appendix H-2 (Cont.)
 Male Breeding Data
 F1 Generation
 Control Animals

Male ID	Days Paired	Female		
		Sperm Positive	Pregnant	Gave Birth
87D0879	7	no		
	7	no		
87D0915	2	yes	yes	yes
87D0921	3	yes	no	
87D0935	7	no		
	7	no		
87D0937	1	yes	yes	yes
87D0939	1	yes	no	
87D0949	7	no		
87D0951	7	no		
	7	no		
87D0955	3	yes	yes	yes
87D0969	3	yes	yes	yes
87D0971	2	yes	yes	yes
87D0977	2	yes	yes	yes

Appendix H-2 (Cont.)
Male Breeding Data
 F₁ Generation
 1.3 ppt Nitroguanidine Animals

Male ID	Days Paired	Female		
		Sperm Positive	Pregnant	Gave Birth
87D0807	1	yes	yes	yes
	7	no		
87D0827	6	yes	yes	yes
	6	yes	yes	yes
87D0843	1	yes	yes	yes
	2	yes	yes	yes
87D0853	7	no		
	7	no		
87D0863	3	yes	yes	yes
	4	yes	yes	yes
87D0865	5	yes	yes	yes
87D0885	5	yes	yes	yes
87D0891	7	no		
	7	no		
87D0899	2	yes	yes	yes
87D0901	1	yes	yes	yes
87D0903	3	yes	yes	yes
87D0907	5	yes	yes	yes
87D0913	2	yes	yes	yes
87D0925	7	no		
87D0927	3	yes	yes	yes
87D0945	5	yes	yes	yes
87D0947	2	yes	no	

Appendix H-2 (Cont.)
Male Breeding Data
F₁ Generation
1.3 ppt Nitroguanidine Animals

Male ID	Days Paired	Female		
		Sperm Positive	Pregnant	Gave Birth
87D0957	3	yes	yes	yes
87D0959	2	yes	yes	yes
87D0963	2	yes	yes	yes

Appendix H-2 (Cont.)
Male Breeding Data
 F₁ Generation
 4.0 ppt Nitroguanidine Animals

Male ID	Days Paired	Female		Gave Birth
		Sperm Positive	Pregnant	
87D0803	7	no		
	7	no		
87D0805	3	yes	yes	yes
	1	yes	no	
87D0811	7	no		
	7	no		
87D0817	3	yes	yes	yes
	7	no		
87D0825	3	yes	yes	yes
	7	no		
87D0835	7	no		
	7	no		
87D0839	2	yes	yes	yes
	7	no		
87D0845	7	no		
	4	yes	yes	yes
87D0849	1	yes	no	
	3	yes	yes	yes
	5	yes	yes	yes
87D0859	7	no		
	7	no		
87D0869	4	yes	yes	yes
87D0881	7	no		
	7	no		
87D0887	3	yes	yes	yes
	6	yes	yes	yes

Appendix H-2 (Cont.)
 Male Breeding Data
 F1 Generation
 4.0 ppt Nitroguanidine Animals

Male ID	Days Paired	Female		
		Sperm Positive	Pregnant	Gave Birth
87D0889	2	yes	no	
	6	yes	yes	yes
87D0905	7	no		
87D0909	1	yes	yes	yes
87D0917	6	yes	yes	yes
87D0919	2	yes	yes	yes
87D0929	*	yes	yes	yes
87D0943	7	no		
	7	no		
87D0965	7	no		
87D0967	2	yes	no	
	7	no		
87D0973	3	yes	yes	yes

*Sperm in vaginal smear not detected. Female gave birth.
 Date of breeding not known.

Appendix H-2 (Cont.)
Male Breeding Data
 F₁ Generation
 12.7 ppt Nitroguanidine Animals

Male ID	Days Paired	Female		
		Sperm Positive	Pregnant	Gave Birth
87D0815	7	no		
	7	no		
87D0819	1	yes	yes	yes
	3	yes	yes	yes
87D0823	1	yes	yes	yes
	3	yes	yes	yes
87D0833	5	yes	yes	yes
87D0851	1	yes	yes	yes
87D0855	1	yes	yes	yes
	3	yes	yes	yes
87D0867	7	no		
	2	yes	yes	yes
87D0873	3	yes	yes	yes
	2	yes	yes	yes
87D0883	7	no		
	7	yes	yes	yes
87D0893	1	yes	yes	yes
87D0895	2	yes	yes	yes
87D0897	2	yes	yes	yes
87D0911	7	no		
	7	no		
87D0923	1	yes	no	
87D0931	7	no		
	7	no		
87D0933	4	yes	yes	yes

Appendix H-2 (Cont.)
Male Breeding Data
F₁ Generation
12.7 ppt Nitroguanidine Animals

Male ID	Days Paired	Female		
		Sperm Positive	Pregnant	Gave Birth
87D0953	7	no		
87D0961	4	yes	yes	yes
87D0975	4	yes	yes	no

87012P
 APPENDIX I-1
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 DELIVERY AND LITTER DATA

CONTROL GRP 1 0 PPT

FEMALE#	LITTER DELIVERED				—	NUMBER OF LIVE PUPS												DURATION OF GESTATION (DAYS)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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8700413x NP	13	2	15							0	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M

NP=NOT PREGNANT DNB=DID NOT BREED X=EXCLUDED FROM MEAN

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

87012P

APPENDIX I-1 CONT.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
DELIVERY AND LITTER DATA

LOW DOSE GRP 2 1.3 PPT

FEMALE#	LITTER DELIVERED		NUMBER OF LIVE PUPS										DURATION OF GESTATION (DAYS)	
	LIVE DEAD TOTAL		0		4		7		14		21		N	
	N	N	M	F	M	F	M	F	M	F	M	F		
8700412x NP	12	0	12		5	7		4	4	4	4	4	22	
8700424														
8700433x NP													24	
8700438 APD	0	0	1		0	0	0	0	0	0	0	0		
8700441x NP														
8700448	13	0	13		5	8		4	4	4	4	4	22	
8700449	17	0	17		7	10		4	4	4	4	4	22	
8700452	6	0	6		3	3		3	3	3	3	3	22	
8700454x NP														
8700457 APD	1	4	5		0	1		0	0	0	0	0	23	
8700462 APD	1	1	2		0	1		0	0	0	0	0	23	
8700463	9	0	9		5	4		4	4	4	4	4	22	
8700464	14	0	14		7	7		4	4	4	4	4	22	
8700468x NP														
8700473	10	0	10		4	6		4	4	4	4	4	22	
8700475	7	0	7		5	2		5	2	5	2	5	22	
8700476	13	1	14		6	7		4	4	3	4	4	22	
8700487x DNB														
8700488	11	1	12		4	7		4	4	4	4	4	22	
8700491x NP														
8700492x DNB														
8700495	9	0	9		5	4		4	4	4	4	4	22	
8700499	15	0	15		10	5		4	4	4	4	4	22	
8700501	3	0	3		2	1		2	1	2	1	2	23	
8700502	13	0	13		8	5		4	4	4	4	4	22	
8700518	16	0	16		6	10		4	4	4	4	4	21	
8700519 APD	0	0	1		0	0		0	0	0	0	0	25	
8700522	13	0	13		5	8		4	4	4	4	4	22	
8700529 APD	10	0	10		4	6		0	0	0	0	0	22	
8700531	10	1	11		7	3		5	3	5	3	5	22	
8700533	11	0	11		7	4		2	0	2	0	2	22	
8700534	15	0	15		6	9		4	4	4	4	4	22	
8700536	9	0	9		4	5		4	4	4	4	4	22	
8700544 APD	3	0	3		1	2		1	0	1	0	1	22	
8700549	14	0	14		8	6		4	4	4	4	4	22	
MEAN	9.4	0.3	9.8		5.0	5.2		3.7	3.3	3.5	3.2	3.7	22.3	
S.D.	5.1	0.8	4.8		2.5	2.7		0.9	1.3	1.1	1.3	1.0	0.8	
N	27	27	27		25	25		22	22	22	22	21	27	

NP=NOT PREGNANT DNB=DID NOT BREED APD=ALL PUPS DIED BY DAY 21PP X=EXCLUDED FROM MEAN

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

87012P
 APPENDIX I-1 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 DELIVERY AND LITTER DATA

MID DOSE GRP 3 4 PPT

FEMALE#	LITTER DELIVERED		NUMBER OF LIVE PUPS												DURATION OF GESTATION (DAYS)	
	LIVE N	DEAD N	TOTAL N	DAYS												
				0		4		7		14		21				
	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
87D00415x NP	14	0	14	3	11	3	5	3	5	3	5	3	5	3	5	22
87D00417	15	0	15	7	8	6	4	4	4	4	4	4	4	3	4	22
87D00420	3	0	3	1	2	0	0	0	0	0	0	0	0	0	0	22
87D00422 APD	14	1	15	4	10	4	4	4	4	4	4	2	2	2	1	22
87D00427	16	0	16	10	6	10	6	4	4	4	4	4	4	3	3	22
87D00432	11	0	11	6	5	6	4	4	4	4	4	4	4	4	4	22
87D00435																
87D00436x NP	6	0	6	4	2	4	2	4	2	4	2	4	2	4	2	22
87D00443																
87D00444x NP																
87D00453x NP																
87D00455x NP																
87D00456	10	0	10	6	4	6	4	4	4	4	4	4	4	4	4	22
87D00459	4	0	4	2	2	2	2	2	2	2	2	2	2	2	2	22
87D00466	11	1	12	3	8	3	5	3	5	3	5	3	5	3	5	22
87D00469	15	0	15	10	5	10	5	4	4	4	4	4	4	4	4	22
87D00471	11	0	11	3	8	3	5	3	5	3	5	3	5	3	5	22
87D00478	14	0	14	5	9	4	4	4	4	4	4	4	4	4	4	22
87D00480	9	1	10	3	6	3	5	3	5	3	5	3	5	3	5	23
87D00486x NP																
87D00489x NP																
87D00490	12	0	12	7	5	7	5	4	4	4	4	4	4	4	4	22
87D00493x NP																
87D00494	11	0	11	4	7	4	4	4	4	4	4	4	4	4	3	22
87D00508	5	0	5	2	3	2	3	2	3	2	3	2	3	2	3	22
87D00511	13	0	13	4	9	4	4	4	4	4	4	4	4	4	4	22
87D00515	15	0	15	5	10	5	10	4	4	4	4	4	4	4	4	22
87D00516 APD	15	0	15	4	11	0	0	0	0	0	0	0	0	0	0	22
87D00524x NP																
87D00526	11	0	11	6	5	6	5	4	4	4	4	4	4	4	4	22
87D00527	15	0	15	9	6	9	6	4	4	4	4	4	4	4	4	22
87D00537	13	0	13	3	10	3	9	3	5	3	5	2	4	2	4	22
87D00543	13	1	14	6	7	6	7	3	5	3	5	2	4	2	4	22
87D00547	9	0	9	5	4	5	4	4	4	4	4	4	4	4	4	21
MEAN	11.4	0.2	11.6	4.9	6.5	5.0	6.4	3.6	4.0	3.6	4.0	3.4	3.8	3.3	3.7	22.0
S.D.	3.7	0.4	3.7	2.4	2.8	2.3	2.6	0.7	0.8	0.7	0.8	0.8	1.0	0.8	1.0	0.3
N	25	25	25	25	25	23	23	23	23	23	23	23	23	23	23	25

NP=NOT PREGNANT APD=ALL PUPS DIED BY DAY 21PP X=EXCLUDED FROM MEAN

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

87012P

APPENDIX 1-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
DELIVERY AND LITTER DATA

HIGH DOSE GRP 4 12.7 PPT

FEMALE#	LITTER DELIVERED		NUMBER OF LIVE PUPS												DURATION OF GESTATION (DAYS)	
	LIVE N	DEAD N	TOTAL		0		4		7		14		21		M	F
			N	N	M	F	M	F	M	F	M	F	M	F		
8700414	14	2	16		6	8	6	8	4	4	4	4	4	4	4	21
8700416x NP																
8700418x DNB																
8700419x NP																
8700423x NP																
8700426	11	0	12		5	6	5	6	4	4	4	4	4	4	4	22
8700429	12	0	12		8	4	8	4	4	4	4	4	4	4	4	22
8700434	4	0	4		2	2	2	2	2	2	1	2	1	2	1	22
8700439xNOPU																
8700450	14	0	14		7	7	7	7	4	4	4	4	4	4	4	22
8700451x NP																
8700458x NP	12	1	13		3	9	3	9	3	5	3	5	3	5	3	22
8700467	14	0	14		9	5	9	5	4	4	4	4	4	4	4	22
8700477																
8700481x NP																
8700482x NP																
8700485x NP																
8700497x NP																
8700500	7	0	7		3	4	3	4	3	4	3	4	3	4	3	23
8700503	14	0	14		5	9	5	9	4	4	4	4	4	4	4	22
8700504	11	1	12		5	6	5	6	4	4	4	4	4	4	4	22
8700505	11	2	13		7	4	7	4	4	4	4	4	4	4	4	22
8700506	12	0	12		6	6	6	6	4	4	4	4	4	4	4	22
8700510	6	0	6		4	2	3	1	3	1	3	1	3	1	3	22
8700513	10	0	10		4	6	4	6	4	4	4	4	4	4	4	21
8700514x NP																
8700517	12	0	12		5	7	5	7	4	4	4	4	4	4	4	22
8700521xNOPU																
8700528	13	0	13		9	4	9	4	4	4	4	4	1	2	1	22
8700530x NP																
8700532x NP																
8700538	12	1	13		7	5	6	5	4	4	3	4	2	3	2	22
8700539	9	0	9		4	5	4	5	4	4	4	4	4	4	4	22
8700540	11	0	11		5	6	5	6	4	4	4	4	4	4	4	22
MEAN	11.0	0.4	11.4		5.5	5.5	5.4	5.5	3.7	3.8	3.7	3.8	3.4	3.6	3.4	21.9
S.D.	2.8	0.7	3.0		2.0	2.0	2.0	2.1	0.6	0.9	0.6	0.9	1.0	1.0	1.0	0.4
N	19	19	19		19	19	19	19	19	19	19	19	19	19	19	19

NP=NOT PREGNANT DNB=DID NOT BREED NOPU=PREGNANT, NO PUPS DELIVERED X=EXCLUDED FROM MEAN

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

87012F1
 APPENDIX 1-2
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 DELIVERY AND LITTER DATA

CONTROL GRP 1 0 PPT

FEMALE#	LITTER DELIVERED		NUMBER OF LIVE PUPS														DURATION OF GESTATION (DAYS)	
	LIVE DEAD TOTAL		N		N		0		4		7		14		21		N	
	N	N	N	N	M	F	M	F	M	F	M	F	M	F	M	F	N	N
8700802x NP	14	0	14		4	10	4	4	4	4	4	4	4	4	4	4	22	
8700810x DNB	8	0	8		3	5	3	5	3	5	3	5	1	1	0	1	23	
8700822	13	1	14		7	6	4	4	4	4	4	4	4	4	4	4	21	
8700830																		
8700832x NP																		
8700838x NP																		
8700842x NP																		
8700848	14	0	14		5	9	4	4	4	4	4	4	4	4	4	4	22	
8700858	15	0	15		7	8	4	4	4	4	4	4	3	4	3	3	23	
8700862	12	1	13		6	6	4	4	4	4	4	4	4	4	4	4	23	
8700872	7	0	7		3	4	3	4	3	4	3	4	3	4	3	4	23	
8700876	9	0	9		4	5	3	5	3	5	3	5	3	3	3	3	22	
8700878	13	1	14		6	7	4	4	4	4	4	4	4	4	4	4	23	
8700880	15	0	15		5	10	2	1	2	1	1	0	0	0	0	0	22	
8700916x NP																		
8700922	8	0	8		4	4	3	4	3	4	3	4	3	4	3	4	22	
8700936x NP																		
8700938x NP																		
8700940	12	0	12		8	4	5	3	5	3	5	3	5	3	5	3	23	
8700950x DNB																		
8700952	14	0	14		8	6	6	5	4	4	4	4	3	4	3	4	23	
8700956	13	0	13		5	8	5	7	4	4	4	4	4	3	4	3	22	
8700970	14	0	14		4	10	4	10	4	4	2	4	0	3	0	2	22	
8700972	12	0	12		4	8	4	8	4	4	4	4	4	4	4	4	23	
8700978	12	0	12		7	5	0	0	0	0	0	0	0	0	0	0	23	
MEAN	12.1	0.2	12.2		5.3	6.8	4.4	6.0	3.7	3.9	3.5	3.8	3.3	3.5	3.2	3.4	22.5	
S.D.	2.5	0.4	2.6		1.6	2.2	1.5	2.6	0.7	0.9	1.0	1.1	1.3	0.8	1.4	0.9	0.6	
N	17	17	17		17	17	16	16	16	16	16	16	15	15	15	15	17	

NP=NOT PREGNANT DNB=DID NOT BREED APD=ALL PUPS DIED BY DAY 21PP X=EXCLUDED FROM MEAN

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

87012F1
 APPENDIX I-2 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 DELIVERY AND LITTER DATA

LOW DOSE GRP 2 1.3 PPT

FEMALE#	LITTER DELIVERED			NUMBER OF LIVE PUPS												DURATION OF GESTATION (DAYS)		
	LIVE		DEAD	TOTAL		DAYS												
	N	N	N	0	M	F	4	M	F	7	M	F	14	M	F	21	M	F
8700808	14	1	15	8	6	6	8	6	4	4	4	4	4	4	4	4	4	4
8700828	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8700844	11	0	11	6	5	4	2	4	2	4	2	4	2	4	2	4	2	4
8700854	15	0	15	6	9	6	9	4	4	4	4	4	4	3	4	3	4	2
8700864	4	0	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8700866	12	0	12	6	6	5	6	4	4	4	4	4	4	4	4	3	3	3
8700886	12	1	13	7	5	4	3	4	4	4	4	4	4	4	4	4	4	4
8700892	7	1	8	3	4	3	4	3	4	3	4	3	3	3	3	3	3	3
8700900	7	1	8	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8700902	14	1	15	6	8	2	5	2	5	2	2	2	2	1	1	1	1	1
8700904	12	1	13	8	4	6	4	4	4	4	4	4	4	4	2	4	2	2
8700908	10	0	10	7	3	7	3	5	3	5	3	5	3	5	3	4	3	3
8700914	14	1	15	8	6	8	6	5	3	5	3	5	2	5	2	5	2	2
8700926	11	0	11	6	5	6	5	4	4	4	4	4	4	4	2	2	2	2
8700928	13	1	14	6	7	6	7	4	4	4	4	4	4	4	4	4	4	4
8700942	14	0	14	8	6	4	2	4	2	4	2	4	2	4	2	4	2	2
8700948	11	1	12	7	4	7	4	4	4	4	4	4	4	4	4	4	4	4
8700958x																		
8700960	12	0	12	8	4	8	4	4	4	4	4	4	4	4	4	4	4	2
8700964	12	0	12	3	9	2	6	2	6	2	4	2	2	2	2	2	2	2
MEAN	10.8	0.5	11.4	6.0	5.4	5.4	4.7	3.7	3.7	3.7	3.7	3.7	3.4	3.5	2.9	3.4	2.8	22.2
S.D.	3.8	0.5	3.8	2.0	1.9	2.1	1.9	0.9	1.0	0.9	0.9	0.9	1.1	1.1	1.0	1.1	1.0	0.5
N	19	19	19	18	18	17	17	17	17	17	17	17	17	17	17	17	17	19

NP=NOT PREGNANT APD=ALL PUPS DIED BY DAY 21pp X=EXCLUDED FROM MEAN

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

87012F1
 APPENDIX 1-2 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 DELIVERY AND LITTER DATA

MID DOSE GRP 3 4 PPT

FEMALE#	LITTER DELIVERED			NUMBER OF LIVE PUPS														DURATION OF GESTATION (DAYS)
	LIVE N	DEAD N	TOTAL N	DAYS														
				0		4		7		14		21						
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	N	
87D0804	14	0	14	5	9	5	9	4	4	4	4	4	4	3	4	3	23	
87D0806x DNB																		
87D0812	9	5	14	3	6	2	1	2	1	2	1	2	1	2	1	1	22	
87D0818x DNB																		
87D0826	16	0	16	7	9	7	9	4	4	4	4	4	3	4	3	4	22	
87D0836	13	0	13	7	6	7	6	4	4	4	4	4	3	3	3	3	22	
87D0840	11	0	11	6	5	6	5	4	4	4	4	3	1	0	1	0	22	
87D0846	15	0	15	6	9	6	9	4	4	4	4	4	4	3	4	3	22	
87D0850x NP																		
87D0860x NP																		
87D0870x DNB																		
87D0882	11	0	11	6	5	6	5	4	4	4	4	4	4	4	4	4	22	
87D0888x NP																		
87D0890	12	0	12	5	7	5	7	4	4	4	3	4	2	3	2	3	22	
87D0906	14	0	14	6	8	6	4	4	4	4	4	4	4	4	4	4	23	
87D0910	13	0	13	8	5	8	5	4	4	4	4	4	4	4	4	4	22	
87D0918	7	0	7	3	4	3	4	3	4	3	3	4	3	3	3	3	23	
87D0920	15	0	15	8	7	7	5	4	4	4	3	4	1	2	1	2	23	
87D0930	14	0	14	7	7	7	6	4	4	4	4	4	2	1	2	1	22	
87D0944	13	0	13	7	6	7	6	4	4	4	4	4	4	4	4	4	22	
87D0966	16	0	16	9	7	8	6	4	4	4	4	4	2	0	1	0	22	
87D0968	18	1	19	7	11	7	11	4	4	4	4	4	4	4	4	4	22	
87D0974x NP																		
MEAN	13.2	0.4	13.6	6.3	6.9	6.1	6.1	3.8	3.8	3.8	3.7	3.8	2.9	2.8	2.9	2.8	22.3	
S.D.	2.8	1.3	2.7	1.7	1.9	1.7	2.4	0.5	0.8	0.5	0.6	0.8	1.1	1.5	1.2	1.5	0.4	
N	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	

NP=NOT PREGNANT DNB=DID NOT BREED X=EXCLUDED FROM MEAN

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

87012F1

APPENDIX 1-2 CONT.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
DELIVERY AND LITTER DATA

HIGH DOSE GRP 4 12.7 PPT

FEMALE#	LITTER DELIVERED			NUMBER OF LIVE PUPS												DURATION OF GESTATION (DAYS)
	LIVE N	DEAD N	TOTAL N	DAYS												
				0		4		7		14		21				
				M	F	M	F	M	F	M	F	M	F	M	F	N
8700816	14	0	14	7	7	7	7	4	4	4	4	3	4	2	4	23
8700820	4	0	4	2	2	1	1	2	1	1	2	1	2	1	2	22
8700824	11	0	11	5	6	5	6	4	4	4	4	4	4	4	4	23
8700834	8	0	8	5	3	5	3	5	3	5	3	5	3	5	3	23
8700852	15	1	16	5	10	2	5	2	5	2	4	2	4	2	4	22
8700856	11	0	11	8	3	8	3	5	3	5	3	5	3	5	3	23
8700868	2	0	2	0	2	0	2	0	2	0	2	0	2	0	2	24
8700874	14	1	15	5	9	5	9	4	4	4	4	4	4	4	4	22
8700884	13	0	13	8	5	8	5	4	4	4	4	4	4	4	4	23
8700894	11	0	11	4	7	4	6	4	4	3	4	3	4	3	4	23
8700896	10	1	11	5	5	0	0	0	0	0	0	0	0	0	0	22
8700898	10	0	10	4	6	4	6	4	4	4	4	3	3	2	3	22
8700912x NP																
8700924 APD	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	23
8700932 APD	11	0	11	7	4	0	0	0	0	0	0	0	0	0	0	22
8700934	13	0	13	7	6	7	6	4	4	4	4	4	4	4	4	22
8700954xNPU																
8700962 APD	15	0	15	8	7	5	5	4	4	0	0	0	0	0	0	22
8700976	12	0	12	10	2	10	2	6	2	5	2	3	0	3	0	22
MEAN	10.2	0.2	10.5	5.6	5.3	5.1	4.8	3.6	3.5	3.5	3.4	3.2	3.2	3.0	3.2	22.5
S.D.	4.4	0.4	4.4	2.5	2.5	2.8	2.1	1.6	0.9	1.6	0.9	1.5	1.2	1.5	1.2	0.6
N	17	17	17	16	16	14	14	14	14	13	13	13	13	13	13	17
NP=NOT PREGNANT NPU=NOT PREGNANT,NO PUPS DELIVERED APD=ALL PUPS DIED BY DAY 21pp X=EXCLUDED FROM MEAN																
DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY																

NP=NOT PREGNANT NPU=PREPREGNANT,NO PUPS DELIVERED APD=ALL PUPS DIED BY DAY 21pp X=EXCLUDED FROM MEAN

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

87012P
 APPENDIX J-1
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 INDIVIDUAL PUP SEX AND STATUS POST PARTUM

CONTROL			GRP 1			0			PPT																						
			PUP #																												
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23						
FEMALE#			NOT PREGNANT																												
8700413																															
8700421			MAK22	MAK22	MAK22	MAK22	FD 2	FM 2	FK22	FK22	FK22	FC 4	FC 4	FK22	FK22	FC 4	FS	FS													
8700425			MAK24	MAK24	MAK24	MAK24	FK24	FK24																							
8700430			MAK23	MAK23	MAK23	MAK23	FS																								
8700431			MAK24	MAK24	MAK24																										
8700437			MAK22	MAK22	MAK22	MAK22	FK22	FK22	FC 4	FC 4	FK22	FK22	FC 4																		
8700440																															
8700442			MAK22	MAK22	FC 4	FC 4	FK22	FK22	FK22	FC 4	FK22	FC 4	FK22	FC 4	FK22	FC 4	FK22	FC 4													
8700445			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700446			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700447			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700460																															
8700461			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700465																															
8700470																															
8700472			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700479			MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26	MAK26					
8700484			MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25	MAK25					
8700496			MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23					
8700498			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700507			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700509			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700512			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700520			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700523			MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23					
8700525			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700535																															
8700541																															
8700542			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700545			MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23	MAK23					
8700546			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700548																															
8700550			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					
8700551			MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22	MAK22					

SEX CODES: M-MALE F-FEMALE U-UNCERTAIN
 PUP STATUS CODES: A-ALIVE S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING K-SCHEDULED SACRIFICE/F2 PARENT

87012P

APPENDIX J-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
INDIVIDUAL PUP SEX AND STATUS POST PARTUM

LOW DOSE GRP 2		1.3 PPT																						
FEMALE#	PUP #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
8700412																								
8700424																								
8700433																								
8700438																								
8700441																								
8700448																								
8700449																								
8700452																								
8700454																								
8700457																								
8700462																								
8700463																								
8700464																								
8700468																								
8700473																								
8700475																								
8700476																								
8700487																								
8700488																								
8700491																								
8700492																								
8700495																								
8700499																								
8700501																								
8700502																								
8700518																								
8700519																								
8700522																								
8700529																								
8700531																								
8700533																								
8700534																								
8700536																								
8700544																								
8700549																								
																	</							

NOT PREGNANT

NOT PREGNANT

NOT PREGNANT

NOT PREGNANT

NOT PREGNANT

DID NOT BREED

NOT PREGNANT

DID NOT BREED

SEX CODES: M-MALE F-FEMALE U-UNCERTAIN
PUP STATUS CODES: A-ALIVE S-STILLBORN U-UNCERTAIN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING K-K-SCHEDULED SACRIFICE/F2 PARENT

87012P

APPENDIX J-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
INDIVIDUAL PUP SEX AND STATUS POST PARTUM

INDIVIDUAL PUP SEX AND STATUS POST PARTUM																							
PUP #																							
FEMALE#	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
8700415	MK22	MK22	MK22	FK22	FC 4	FK22	FK22	FC 4	FK22	FC 4	FC 4	FK22	FC 4	FC 4									
8700417	MK22	MK22	MC 4	MC 4	MD 3	MD20	MK22	FK22	FC 4	FK22	FC 4	FK22	FC 4	FK22	FC 4								
8700420	MZ 1	FD 1	FD 1																				
8700422	MD 9	MK24	MD10	MK24	FD10	FC 4	FC 4	FC 4	FC 4	FC 4	FK24	FC 4	FD13	FD12	FS								
8700427	MK23	MC 4	MC 4	MC 4	MC 4	MC 4	MD20	MC 4	MK23	MK23	FK23	FK23	FK23	FK23	FC 4	FC 4							
8700432	MK24	MK24	MK24	MK24	MC 4	MC 4	FK24	FK24	FC 4	FK24	FK24												
8700435																							
8700436																							
8700443	MK22	MK22	MK22	FK22	FK22																		
8700444																							
8700453																							
8700455																							
8700456	MK22	MK22	MC 4	MC 4	MC 4	FK22	FK22	FK22	FK22	FK22													
8700459	MK22	MK22	FK22	FK22																			
8700466	MK26	MK26	MK26	FK26	FK26	FK26	FK26	FC 4	FK26	FC 4	FC 4	FS											
8700469	MK22	MC 4	MC 4	MC 4	MC 4	MC 4	MK22	MC 4	MK22	MK22	FK22	FK22	FC 4	FK22	FC 4	FK22	FC 4						
8700471	MK23	MK23	MK23	FK23	FK23	FK23	FK23	FC 4	FK23	FC 4	FK23	FC 4	FC 4										
8700478	MD 2	MK25	MK25	MK25	MK25	FK25	FC 4	FK25	FC 4	FK25	FC 4	FK25	FC 4	FK25	FC 4	FD 3							
8700480	MK22	MK22	MK22	FK22	FK22	FK22	FD 1	FK22	FK22	MS													
8700486																							
8700489																							
8700490	MK23	MK23	MC 4	MC 4	MK23	MK23	MC 4	FK23	FK23	FC 4	FK23	FK23											
8700493																							
8700494	MK22	MK22	MK22	FK22	FK22	FK22	FC 4	FC 4	FK22	FZ11	FC 4												
8700508	MK22	MK22	FK22	FK22	FK22																		
8700511	MK24	MK24	MK24	MC 4	FK24	FK24	FK24	FK24	FC 4	FC 4	FC 4	FK24	FC 4	FK24	FC 4								
8700515	MK23	MK23	MC 4	MK23	MK23	FK23	FC 4	FC 4	FC 4	FC 4	FC 4	FK23	FC 4	FK23	FC 4	FK23	FC 4						
8700516	MD 2	MD 2	MD 2	MD 2	MD 2	FD 3	FD 2	FD 2	FD 2	FD 2	FD 2	FD 2	FD 2	FD 2	FD 2	FD 3	FD 3						
8700524																							
8700526	MK22	MK22	MK22	MK22	MC 4	MC 4	FK22	FK22	FC 4	FK22	FK22												
8700527	MC 4	MK22	MK22	MK22	MC 4	MC 4	MC 4	MK22	MC 4	FK22	FK22	FK22	FK22	FK22	FC 4	FC 4							
8700537	MK22	MK22	MM12	FK22	FC 4	FK22	FK22	FK22	FK22	FK22	FK22	FK22	FK22	FK22	FC 4	FC 4							
8700543	MK22	MD 8	MC 4	MC 4	MC 4	MK22	FK22	MC 4	FK22	FD10	FK22	FK22	FC 4	FC 4	MS								
8700547	MK23	MK23	MC 4	MK23	MK23	FK23	FK23	FK23	FK23	FK23	FK23												

NOT PREGNANT

NOT PREGNANT

NOT PREGNANT

NOT PREGNANT

NOT PREGNANT

NOT PREGNANT

NOT PREGNANT

NOT PREGNANT

SEX CODES: M-MALE F-FEMALE U-UNCERTAIN
PUP STATUS CODES: A-ALIVE S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING K-SCHEDULED SACRIFICE/F2 PARENT

87012P

APPENDIX J-1 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 INDIVIDUAL PUP SEX AND STATUS POST PARTUM

INDIVIDUAL PUP SEX AND STATUS POST PARTUM																								
HIGH DOSE GRP 4 12.7 PPT																								
FEMALE#	PUP #																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
8700414	MK22	MK22	MK22	MK22	MC 4	MC 4	FK22	FC 4	FK22	FC 4	FK22	FC 4	FK22	FC 4	FS									
8700416																								
8700418																								
8700419																								
8700423																								
8700426	MK24	MK24	MC 4	MK24	MK24	FK24	FK24	FK24	FK24	FC 4	FC 4	UU												
8700429	MK24	MC 4	MK24	MC 4	MK24	MC 4	MK24	MC 4	FK24	FK24	FK24	FK24	FK24	FK24										
8700434	MD12	MK24	FK24	FK24																				
8700439																								
8700450	MK22	MK22	MC 4	MC 4	MK22	MK22	MC 4	FK22	FK22	FC 4	FC 4	FK22	FK22	FC 4										
8700451																								
8700458																								
8700467	MK26	MK26	MK26	FK26	FC 4	FK26	FK26	FK26	FC 4	FK26	FC 4	FC 4	FS											
8700477	MC 4	MK26	MK26	MK26	MC 4	MC 4	MC 4	MK26	MC 4	FK26	FK26	FC 4	FK26	FK26										
8700481																								
8700482																								
8700485																								
8700497																								
8700500	MK24	MK24	MK24	FK24	FK24	FK24	FK24	FK24																
8700503	MK22	MK22	MC 4	MK22	MK22	FC 4	FK22	FK22	FK22	FC 4	FC 4	FC 4	FK22	FC 4										
8700504	MK23	MK23	MC 4	MK23	MK23	FK23	FK23	FK23	FK23	FC 4	FC 4	FS												
8700505	MK23	MK23	MC 4	MC 4	MK23	MK23	MC 4	FK23	FD 8	FK23	FK23	MS												
8700506	MK22	MK22	MK22	MK22	MC 4	MC 4	FK22	FK22	FK22	FK22	FC 4	FC 4												
8700510	MK22	MK22	MK22	MD 2	FK22	FM 2																		
8700513	MK22	MK22	MK22	MK22	FK22	FK22	FK22	FK22	FK22	FC 4	FC 4													
8700514																								
8700517	MK22	MK22	MC 4	MK22	MK22	FK22	FK22	FC 4	FC 4	FK22	FK22	FC 4												
8700521																								
8700528	MC 4	MD13	MD10	MD12	MC 4	MC 4	MC 4	MK23	MC 4	FD 9	FK23	FK23	FD12											
8700530																								
8700532																								
8700538	MK22	MD 9	MD 5	MK22	MC 4	MM 2	MC 4	FK22	FK22	FC 4	FD13	FK22	US											
8700539	MK22	MK22	MK22	MK22	FK22	FK22	FC 4	FK22	FK22															
8700540	MK22	MK22	MC 4	MK22	MK22	FK22	FK22	FK22	FK22	FC 4	FC 4													

NOT PREGNANT
 DID NOT BREED
 NOT PREGNANT
 NOT PREGNANT

PREGNANT, NO PUPS DELIVERED

NOT PREGNANT
 NOT PREGNANT

NOT PREGNANT
 NOT PREGNANT
 NOT PREGNANT
 NOT PREGNANT

NOT PREGNANT

PREGNANT, NO PUPS DELIVERED

NOT PREGNANT
 NOT PREGNANT

SEX CODES: M-MALE F-FEMALE U-UNCERTAIN
 PUP STATUS CODES: A-ALIVE S-STILLBORN U-UNCERTAIN D-DIED C-CULLED M-MISSING K-SCHEDULED SACRIFICE/F2 PARENT

CONTROL GRP 1 0 PPT

INDIVIDUAL PUP SEX AND STATUS POST PARTUM

PUP #

[illegible]

NOT PREGNANT
DID NOT BREED

MWK22 MWK22 WK22 MK22 FK22 FC 4 FC 4 FC 4 FC 4 FC 4 FC 4 FC 4 FC 4 FC 4 FC 4 FC 4

NOT PREGNANT
NOT PREGNANT
NOT PREGNANT

HWK22 WK22 MC 4 WK22 WK22 FC 4 FK22 FC 4 FC 4 FC 4 FK22 FC 4
 WD10 WK22 MC 4 MC 4 WK22 WK22 MC 4 FK22 FC 4 FD17 FC 4 FK22 FC 4 FK22 FC 4
 WD 1 WK22 WK22 WK22 WZ 1 WK22 FK22 FK22 FK22 FK22 FD 1 FD 1 MS

[illegible][illegible]

NOT PREGNANT

MD 2 MK22 MK22 MK22 FK22 FK22 FK22

NOT PREGNANT
NOT PREGNANT

MM 3 MK22 MM 3 MM 3 MK22 MK22 MK22 FK22 FK22 FK22 FK22 FK22 FK22

DID NOT BREED

[illegible]

SEX CODES: M-MALE F-FEMALE U-UNCERTAIN

SEX CODES: M-MALE F-FEMALE U-UNKNOWN
PUP STATUS CODES: A-ALIVE S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED H-MISSING K-SCHEDULED SACRIFICE

87012F1

APPENDIX J-2 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 INDIVIDUAL PUP SEX AND STATUS POST PARTUM

LOW DOSE	GRP 2	1.3 PPT																							
			PUP #																						
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
FEMALE#			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0808			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0828			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0844			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0854			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0864			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0866			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0886			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0892			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0890			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0900			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0902			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0904			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0908			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0914			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0926			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0928			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0942			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0948			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0958			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0960			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
87D0964			MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4	MC 4
			NOT PREGNANT																						

NOT PREGNANT

SEX CODES: M-MALE F-FEMALE U-UNCERTAIN
 PUP STATUS CODES: A-ALIVE S-STILLBORN U-UNCERTAIN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING K-SCHEDULED SACRIFICE

87012F1
 APPENDIX J-2 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 INDIVIDUAL PUP SEX AND STATUS POST PARTUM

MID DOSE	GRP 3	4	PPT																						
FEMALE#	PUP #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
8700804	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700806	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700812	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700818	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700826	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700836	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700840	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700846	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700850	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700860	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700870	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700882	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700888	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700890	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700906	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700910	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700918	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700920	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700930	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700944	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700966	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700968	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4
8700974	MK22		MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4	MK22	MC	4

DID NOT BREED

DID NOT BREED

NOT PREGNANT

NOT PREGNANT

DID NOT BREED

NOT PREGNANT

US

NOT PREGNANT

SEX CODES: M-MALE F-FEMALE U-UNCERTAIN
 PUP STATUS CODES: A-ALIVE S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING K-SCHEDULED SACRIFICE

87012F1

APPENDIX J-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

INDIVIDUAL PUP SEX AND STATUS POST PARTUM

HIGH DOSE GRP 4 12.7 PPT																									
FEMALE#	PUP #																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
8700816	MD11	MC22	MC 4	MC 4	MD15	MC22	MC 4	FK22	FK22	FC 4	FC 4	FK22	FK22	FC 4											
8700820	MC22	MD 2	FK22	FK22																					
8700824	MC22	MC22	MC 4	MC22	MC22	FK22	FK22	FK22	FK22	FC 4	FC 4														
8700834	MC22	MC22	MC22	MC22	MC22	FK22	FK22	FK22	FK22																
8700852	MC22	MD 2	MC22	MD 2	NM 2	FD 3	FK22	FD 2	FK22	FD 3	FK22	FD 3	FD 3	FD 6	FK22	FS									
8700856	MC22	MC22	MC22	MC22	MC 4	MC22	MC 4	MC 4	FK22	FK22	FK22	FK22													
8700868	FK22	FK22																							
8700874	MC22	MC22	MC 4	MC22	MC22	FC 4	FK22	FK22	FK22	FC 4	FC 4	FC 4	FK22	FC 4	MS										
8700884	MC22	MC 4	MC22	MC 4	MC22	MC 4	MC22	MC 4	FK22	FK22	FC 4	FK22	FK22												
8700894	MC22	MC22	MC22	MD 7	FK22	FK22	FC 4	FK22	MC 4	FK22	FK22	FD 1													
8700896	NM 2	MD 1	MD 1	MD 1	MD 1	FD 1	FD 1	FD 1	FD 1	FD 1	FD 1	MS													
8700898	MD15	MD14	MC22	MC22	FK22	FK22	FK22	FD10	FC 4	FC 4															
8700912																									
8700924	FS																								
8700932	NM 2	MD 2	NM 2	MD 2	NM 2	MD 2	NM 2	FD 2	FD 2	FD 2	FD 2	FM 2													
8700934	MC22	MC22	MC 4	MC 4	MC22	MC22	MC 4	FK22	FK22	FK22	FK22	FC 4	FC 4												
8700954	MD 4	NM 6	MD 4	MC 4	MD 5	MD 4	MD 6	MD 6	FM 7	FD 4	FD 6	FC 4	FD 6	FD 2	FD 5										
8700962	MC 4	MD 7	MC22	MD 9	NM 9	MC22	MC 4	MC22	MC 4	MC 4	FD12	FM 9													
8700976																									

NOT PREGNANT

PREGNANT, NO PUPS DELIVERED

SEX CODES: N-MALE F-FEMALE U-UNCERTAIN
PUP STATUS CODES: A-ALIVE S-STILLBORN D-DIED C-CULLED N-MISSING K-SCHEDULED SACRIFICE

87012P

APPENDIX K-1
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

CONTROL					GRP 1 0 PPT		POP BODY WEIGHTS																			LACTATION DAY 0				
FEMALE#	MEAN	PUP#																												
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19										
87D00413	NOT PREGNANT																													
87D00421	6.7	6.8	7.3	7.7	7.0	6.1	5.5	6.9	6.1	7.3	6.8	6.5	7.5	6.2	S															
87D00425	8.0	8.1	8.4	8.0	7.6	7.7	8.0																							
87D00430	6.6	6.0	7.0	6.4	6.9	S																								
87D00431	8.5	8.4	9.2	7.9																										
87D00437	8.0	7.8	8.3	8.2	7.8	7.9	8.0	8.4	8.7	8.0	7.7	7.5																		
87D00440	NOT PREGNANT																													
87D00442	7.1	7.2	8.2	6.2	7.7	7.2	6.9	7.4	7.3	6.1	7.1	7.1	6.8	7.6	6.9															
87D00445	7.2	7.8	7.5	7.2	7.8	6.8	7.4	7.4	7.5	7.1	6.6	7.2	6.4																	
87D00446	7.4	7.8	7.5	7.4	8.0	7.1	7.5	7.2	7.4	7.4	7.2	7.0																		
87D00447	7.0	7.0	7.3	7.1	7.0	7.1	7.2	7.0	7.2	7.1	6.5	6.9	6.8	6.7																
87D00460	DID NOT BREED																													
87D00461	7.4	7.0	6.8	7.6	7.3	7.8	7.6	7.6	7.6	7.1																				
87D00465	DID NOT BREED																													
87D00470	NOT PREGNANT																													
87D00472	6.9	7.2	7.0	6.3	7.6	6.9	6.9	6.5	6.6	7.3	7.0	6.4	6.8	7.0	7.0	S														
87D00479	6.2	6.6	6.3	6.1	6.2	6.2	6.8	6.2	5.6	6.7	5.5	6.1	6.2	S																
87D00484	6.8	6.7	6.8	6.6	7.0	7.0	6.8	7.0	6.0	6.6	7.2	6.7	6.6	6.8	7.0															
87D00496	7.5	7.6	7.4	8.0	7.3	7.5	7.9	6.6	7.5																					
87D00498	6.6	7.4	6.9	6.4	6.9	6.1	6.7	7.0	7.0	6.8	5.8	6.6	6.5	6.5	6.4	6.3														
87D00507	7.7	8.6	8.2	7.7	8.1	6.1	7.7																							
87D00509	6.9	7.2	6.9	7.0	7.4	7.2	6.6	6.7	7.1	6.3	6.6	6.5	7.5																	
87D00512	7.2	8.1	7.8	7.4	7.3	6.9	7.4	7.9	6.8	7.4	6.7	7.4	5.4																	
87D00520	6.9	8.1	6.1	6.8	6.9	7.4	7.3	6.7	6.2	6.9	6.8	6.6	7.0	6.8																
87D00523	6.1	6.9	5.9	7.0	6.8	5.9	4.1	5.9	5.6	6.7	6.2	S	S																	
87D00525	6.6	6.4	8.1	6.1	7.6	6.1	7.0	7.4	7.2	6.3	5.8	4.7	7.0	6.0	6.5	7.1														
87D00535	NOT PREGNANT																													
87D00541	NOT PREGNANT																													
87D00542	7.0	7.1	7.0	7.7	7.1	7.3	7.5	7.4	6.9	6.2	6.5	6.6	6.8																	
87D00545	6.5	6.8	6.7	6.7	6.3	6.8	6.6	6.5	6.6	6.2	5.9	6.8	6.7	6.2																
87D00546	7.5	7.4	7.3	7.8																										
87D00548	NOT PREGNANT																													
87D00550	7.2	7.4	7.3	7.1	7.6	7.3	6.9	6.8	7.2	7.0	7.4	6.9	S	S																
87D00551	6.1	6.2	5.9	6.8	5.8	5.6	5.9	6.0	6.2	5.6	5.5	6.2	6.7	6.6	S															

MEAN 7.06
S.D. 0.59
N 26

PUP STATUS CODES: S-STILLBORN

87012P

APPENDIX K-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

CONTROL	GRP	1	0	PPT	MEAN	LACTATION DAY 4																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700413	NOT PREGNANT																							
8700421	10.1	10.3	10.6	10.7	9.3	D	H																	
8700425	14.5	14.5	15.3	14.8	13.7	14.3	14.5																	
8700430	11.4	10.6	12.7	11.3	11.0	S																		
8700431	12.1	10.4	14.2	11.2																				
8700437	10.8	10.9	10.8	10.1	10.8	10.7	11.1	11.3	10.7	10.8	10.5													
8700440	NOT PREGNANT																							
8700442	9.4	10.3	10.6	8.3	9.9	10.1	8.6	9.5	8.6	9.2	9.0	8.9	9.4	9.2										
8700445	10.4	10.5	10.5	10.6	11.1	9.7	10.1	11.1	10.9	10.8	9.8	10.1	9.9											
8700446	11.2	11.7	11.2	10.9	12.2	10.8	11.6	10.5	11.2	11.1	11.4	10.8												
8700447	11.2	11.6	12.0	10.7	11.3	11.5	11.3	10.8	11.2	10.6	10.5	11.7	10.9	11.0										
8700460	DID NOT BREED																							
8700461	11.6	11.3	11.0	12.1	11.9	12.4	12.1	11.1	12.0	10.4														
8700465	DID NOT BREED																							
8700470	NOT PREGNANT																							
8700472	9.5	9.0	9.8	8.8	10.5	9.6	9.6	8.6	8.4	10.4	9.6	8.9	10.0	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
8700479	8.9	8.8	8.6	8.0	7.8	8.4	10.6	9.1	7.9	10.6	8.9	8.8	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
8700484	9.7	10.0	9.5	9.6	10.0	9.8	9.7	10.0	8.7	9.0	10.7	10.0	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
8700496	6.5	7.0	5.8	6.4	7.1	6.8	5.5	5.7	7.5															
8700498	9.3	10.3	9.3	9.3	9.9	9.0	9.5	9.4	9.6	9.5	8.5	9.3	8.1	9.1	9.3	8.7								
8700507	13.1	15.0	13.6	13.5	13.9	9.4	13.3																	
8700509	10.1	10.5	9.9	10.2	10.6	10.0	9.3	10.0	10.5	9.3	9.9	9.7	10.7											
8700512	11.5	13.0	12.4	11.8	11.2	10.9	11.6	12.7	11.0	11.9	11.1	11.5	9.0											
8700520	11.6	13.8	9.2	11.2	11.8	12.2	12.4	11.1	10.5	12.1	11.6	11.4	11.4	11.5										
8700523	9.8	11.5	9.4	10.9	10.8	9.5	6.2	9.7	9.0	10.7	9.9	S												
8700525	10.3	10.2	12.6	H	11.6	9.0	11.1	10.2	10.5	8.8	8.2	M	11.0	D	9.4	10.5								
8700535	NOT PREGNANT																							
8700541	NOT PREGNANT																							
8700542	10.1	9.9	10.8	11.1	10.1	9.5	10.9	10.7	9.6	8.9	9.6	9.5	10.2											
8700545	10.7	10.4	10.3	11.4	10.6	10.9	11.3	10.0	10.6	10.9	10.3	11.1	10.9	10.3										
8700546	15.1	14.8	15.2	15.2																				
8700548	NOT PREGNANT																							
8700550	10.1	10.2	10.5	10.1	10.5	10.4	9.8	9.1	10.4	9.9	10.1	10.5	S	S										
8700551	9.7	8.7	D	10.6	Z	D	8.8	Z	M	D	8.7	10.0	10.5	10.6	S									

MEAN 10.71
S.D. 1.74
N 26

PUP STATUS CODES: S-STILLBORN D-DIED Z-CANNIBALIZED M-MISSING

87012P

APPENDIX K-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

CONTROL			GRP 1 0 PPT		PUP BODY WEIGHTS															LACTATION DAY 7			
FEMALE#	MEAN	1	PUP#		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
			2																				
87D00413	NOT PREGNANT		16.8	17.1	15.6	D	M	14.3	14.6	C	C	C	16.9	18.3	C	S	S						
87D00421		16.3	17.0																				
87D00425		21.6	21.3	22.9	21.5	20.6	21.4	21.8															
87D00430		18.3	17.4	19.4	18.3	18.1	S																
87D00431		16.3	14.1	18.5	16.2																		
87D00437		18.3	18.6	18.1	18.8	17.3	18.0	18.6	C	C	18.5	18.2	C										
87D00440	NOT PREGNANT																						
87D00442		15.4	17.3	17.1	C	C	16.1	14.1	16.0	C	14.3	C	13.7	C	14.3	C							
87D00445		15.4	15.8	C	15.5	C	14.5	C	16.2	C	15.4	14.8	15.5	15.2									
87D00446		16.7	18.0	17.1	16.0	C	16.2	17.0	15.9	C	C	17.2	16.2										
87D00447		17.6	17.6	C	17.3	C	18.8	C	17.5	C	18.1	16.3	C	17.9	17.5								
87D00460	DID NOT BREED																						
87D00461		17.3	C	16.7	17.8	18.1	18.9	17.4	16.5	17.8	15.4												
87D00465	DID NOT BREED																						
87D00470	NOT PREGNANT																						
87D00472		15.1	14.7	15.5	13.9	16.6	C	C	14.4	C	15.9	C	14.5	C	15.5	C	S						
87D00479		14.9	14.5	14.4	C	13.6	17.8		C	11.4	17.8	C	14.7	14.8	S	S							
87D00484		15.6	15.1	C	15.2	C	15.2	C	15.8	C	15.0	16.8	16.2	15.4	C	C							
87D00496		10.6	12.6	9.9	11.3	13.2	9.2	5.8	10.1	13.1	C	13.9	11.4	14.3	16.2	C	C						
87D00498		15.3	C	16.2	15.5	18.5	C	C	C	16.3													
87D00507		20.3	22.7	21.0	21.0	22.0	14.6	20.5	16.6	C	16.5	C	15.6	C									
87D00509		16.8	17.8	16.5	16.4	17.8	16.8	C	20.6	C	15.9	19.0	C	C									
87D00512		19.3	21.3	20.4	19.5	18.3	C	C	19.0	18.1	C	19.7	19.4	C									
87D00520		19.5	23.4	15.9	20.3	20.5	C	C	C	C	15.9	15.9	S	S									
87D00523		14.7	17.4	14.6	16.9	C	13.0	9.2	14.8	C	14.9	13.6	M	C	D	15.6	17.7						
87D00525		16.7	16.9	20.0	M	C	C	18.2	D														
87D00535	NOT PREGNANT																						
87D00541	NOT PREGNANT																						
87D00542		15.6	16.8	17.6	C	C	10.9	17.1	C	16.0	15.2	C	15.8	15.6									
87D00545		17.7	17.0	17.3	C	C	18.0	18.5	C	17.7	17.4	16.7	18.6	C									
87D00546		22.9	23.0	23.6	22.1																		
87D00548	NOT PREGNANT																						
87D00550		14.0	14.4	14.4	C	13.9	14.3	13.9	12.4	14.8	13.6	C	C	S	S								
87D00551		15.6	14.1	D	17.0	Z	D	14.0	Z	M	D	14.6	15.8	16.3	17.1	S							
MEAN		16.83																					
S.D.		2.53																					
N		26																					

MEAN 16.83
S.D. 2.53
N 26

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012P

APPENDIX K-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

CONTROL					GRP 1					0					PPT					POP BODY WEIGHTS																			LACTATION DAY 14				
FEMALE#		MEAN		1	PUP#		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																			
8700413 NOT PREGNANT																																											
8700421		31.0		31.9	30.8	32.0	30.1	D	H	29.6	28.3	C	C	30.3	C	31.4	33.8	C	S	S																							
8700425		36.5		36.1	39.2	35.6	35.1	35.8	36.9																																		
8700430		35.1		35.6	36.1	35.3	33.3	S																																			
8700431		31.6		28.4	33.2	33.2	24.6	27.6	27.8	C	C	28.1	27.5	C																													
8700437		27.3		27.8	27.0	28.3	24.6	27.6	27.8	C	C	28.1	27.5	C																													
8700440 NOT PREGNANT																																											
8700442		31.3		35.0	32.2	C	C	32.1	29.8	32.2	C	30.3	C	30.3	C	29.8	C	29.3	C																								
8700445		30.4		31.1	C	30.4	C	30.0	C	31.7	C	30.8	29.1	29.7	30.7																												
8700446		30.9		32.2	31.7	30.6	C	29.7	32.1	30.2	C	C	31.4	29.7																													
8700447		32.4		31.5	C	31.6	C	34.2	C	31.8	C	33.5	31.2	C	32.4	32.8																											
8700460		DID NOT BREED																																									
8700461		30.3		C	30.0	30.3	31.2	32.4	30.0	29.4	31.3	28.1																															
8700465 DID NOT BREED																																											
8700470 NOT PREGNANT																																											
8700472		27.6		26.6	29.1	25.6	31.3	C	C	25.0	C	28.2	C	27.1	C	28.0	C	S																									
8700479																																											
8700484		27.1		27.0	C	25.1	C	27.1	C	28.1	C	26.6	27.5	27.4	28.4	C	C																										
8700496		27.6		32.9	24.7	29.9	32.7	11.3	D	27.6	33.9	C	26.6	27.5	27.4	28.4	C	C																									
8700498		31.1		C	34.2	30.6	36.5	C	C	C	32.6	C	29.4	19.2	32.5	34.0	C	C																									
8700507		39.3		42.4	39.9	40.0	40.8	33.0	39.6	33.5	C	33.9	C	31.2	C																												
8700509		33.3		34.6	34.3	30.4	34.5	34.1	C	38.5	D	35.2	36.0	C	C																												
8700512		36.1		38.6	32.7	36.9	34.7	C	C	31.6	29.6	C	C	32.9	33.7	C																											
8700520		32.5		37.2	28.6	33.4	33.3	C	C	31.6	29.6	C	C	32.9	33.7	C																											
8700523		32.3		36.9	31.2	36.5	C	D	22.1	31.1	C	34.7	33.5	S	S																												
8700525		30.6		32.2	34.3	H	C	C	31.8	D	C	29.3	26.1	M	C	29.7	31.1																										
8700535 NOT PREGNANT																																											
8700541 NOT PREGNANT																																											
8700542		29.8		33.7	33.5	C	C	9.8	35.7	C	31.2	31.8	C	32.1	30.8																												
8700545		33.1		32.6	33.1	C	C	33.6	33.0	C	32.3	32.9	32.4	34.9	C	C																											
8700546		42.1		43.0	41.1	42.3																																					
8700548 NOT PREGNANT																																											
8700550		22.3		24.3	21.4	C	22.3	21.7	23.5	20.7	22.7	21.9	C	C	S	S																											
8700551		31.6		30.6	D	32.8	Z	D	28.9	Z	M	D	30.4	31.9	32.0	34.5	S																										
MEAN		31.74																																									
S.D.		4.07																																									
N		25																																									

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012P

APPENDIX K-1 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANTIDINE
 PARENTAL GENERATION
 PUP BODY WEIGHTS

CONTROL	GRP	1	0	PPT	MEAN	LACTATION DAY 21																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700413	NOT PREGNANT																							
8700421	42.9	47.1	42.2	43.1	41.4	D	M	41.8	39.2	C	C	43.7	44.4	C	S	S								
8700425	60.8	58.0	67.8	58.9	60.0	59.1	60.7																	
8700430	58.1	54.7	60.5	59.4	57.7	S																		
8700431	52.7	47.3	52.3	58.4																				
8700437	46.2	46.5	45.9	44.6	38.2	47.8	50.5	C	C	46.8	49.5	C												
8700440	NOT PREGNANT																							
8700442	45.3	50.7	46.6	C	44.2	42.6	46.2	C	43.4	C	45.5	C	43.5	C										
8700445	43.8	44.0	C	45.2	C	41.6	C	46.8	C	44.6	42.8	41.7	43.6											
8700446	50.1	52.2	52.3	49.0	C	48.7	51.2	47.8	C	C	52.9	47.1												
8700447	52.7	53.6	C	50.8	C	55.3	C	51.9	C	54.9	50.1	C	52.0	53.3										
8700460	DID NOT BREED																							
8700461	50.3	C	48.6	50.0	52.6	53.8	49.6	49.5	52.0	46.4														
8700465	DID NOT BREED																							
8700470	NOT PREGNANT																							
8700472	47.5	45.4	50.9	45.1	55.7	C	C	43.4	C	47.2	C	45.8	C	46.2	C	S								
8700479	47.3	49.5	48.1	C	C	44.3	50.1	C	41.7	53.1	C	46.2	45.1	S	S									
8700484	44.5	41.8	C	43.5	C	44.8	C	46.7	C	44.8	44.4	45.8	44.1	C	C									
8700496	51.1	53.1	45.4	50.9	53.3	D	D	48.4	55.6															
8700498	49.6	C	51.3	47.3	54.4	C	C	C	48.3	C	45.5	D	48.6	52.1	C	C								
8700507	60.2	64.7	63.3	60.3	61.3	48.4	63.1																	
8700509	48.1	50.4	50.6	42.3	50.8	48.0	C	49.2	C	49.4	C	43.9	C											
8700512	59.2	61.6	52.8	59.9	57.1	C	C	63.6	D	58.3	60.9	C	C											
8700520	51.1	59.9	46.1	53.2	50.2	C	C	49.8	47.5	C	C	47.5	55.0	C										
8700523	51.3	58.7	52.0	55.2	C	D	35.5	51.0	C	53.7	53.0	S	S											
8700525	48.8	50.5	54.7	H	C	C	50.5	D	C	47.9	40.0	H	C	D	49.0	49.3								
8700535	NOT PREGNANT																							
8700541	NOT PREGNANT																							
8700542	49.5	47.3	56.0	C	C	M	51.5	C	50.8	50.7	C	46.8	43.3											
8700545	50.7	50.4	48.7	C	C	52.2	53.9	C	50.9	47.9	49.8	51.5	C	C										
8700546	60.3	62.0	59.3	59.6																				
8700548	NOT PREGNANT																							
8700550	30.9	33.7	27.9	C	32.1	29.2	33.5	28.5	33.5	29.0	C	C	S	S										
8700551	49.1	49.5	D	46.3	Z	D	46.4	Z	M	D	48.9	50.7	49.5	52.5	S									
MEAN	50.08																							
S.D.	6.43																							
N	26																							

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012P

APPENDIX K-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

FEMALE#	MEAN	LOW DOSE GRP 2 1.3 PPT		LACTATION DAY 0																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700412	NOT PREGNANT																			
8700424	6.8 6.3	8.1	6.9	6.8	7.8	5.7	6.8	6.7	6.8	6.1	6.8	7.1								
8700433	NOT PREGNANT																			
8700438	ALL PUPS DIED BY DAY 21pp																			
8700441	NOT PREGNANT																			
8700448	7.5 7.9	7.4	7.8	8.2	8.0	7.0	7.0	7.3	7.6	7.2	7.5	7.4	7.4	7.4						
8700449	6.5 6.4	6.2	6.5	6.3	6.8	6.9	6.6	6.5	6.5	6.4	6.8	6.7	6.1	6.2	6.4	6.2	6.3			
8700452	7.6 8.2	7.9	7.9	7.7	6.9	7.1														
8700454	NOT PREGNANT																			
8700457	5.7 5.7	S	S	S	S															
8700462	6.6 6.6	S																		
8700463	6.6 7.2	7.2	6.6	7.5	6.2	6.5	5.8	7.1	5.7											
8700464	6.3 6.3	6.3	6.2	6.3	6.1	7.0	6.7	5.6	6.4	5.9	5.9	6.5	6.8	6.3						
8700468	NOT PREGNANT																			
8700473	7.4 7.6	8.0	8.2	7.7	7.3	6.8	7.5	6.3	7.4	7.2										
8700475	7.8 7.7	7.7	7.9	8.1	7.6	7.4	7.9													
8700476	6.9 7.6	7.3	6.6	7.5	6.8	6.8	6.7	7.0	7.0	6.9	6.9	6.7	5.8	S						
8700487	DID NOT BREED																			
8700488	7.1 7.7	7.1	7.2	7.3	6.7	7.5	7.7	6.6	6.5	6.8	7.2	S								
8700491	NOT PREGNANT																			
8700492	DID NOT BREED																			
8700495	7.3 7.7	7.4	7.4	7.4	7.7	7.5	6.9	6.9	7.1											
8700499	6.9 7.2	7.3	6.5	6.8	7.4	6.7	6.3	7.3	7.3	7.4	7.0	6.8	6.2	7.0	6.5					
8700501	7.0 8.5	6.4	6.2	6.7	7.2	7.3	6.7	6.2	6.2	6.8	5.8	6.7	6.9							
8700502	6.7 6.7	7.0	7.2	6.7	7.2	7.3	6.7	6.2	6.2	5.6	5.4	5.6	5.7	5.6	5.7	5.4	5.8			
8700518	5.8 6.0	5.8	5.7	6.5	6.4	5.7	5.8	6.1	5.6											
8700519	ALL PUPS DIED BY DAY 21pp																			
8700522	7.2 6.7	8.1	7.4	6.7	7.3	7.7	7.4	6.8	7.2	7.2	7.4	7.1	7.2							
8700529	6.3 6.6	6.9	6.6	6.5	5.9	6.1	6.1	6.2	6.0	5.9										
8700531	6.6 6.1	6.9	7.0	6.2	7.1	6.5	7.5	6.8	6.0	5.8	S									
8700533	5.7 5.6	5.6	7.2	5.0	6.3	6.0	5.9	5.1	5.3	5.3	5.3									
8700534	6.1 6.2	7.1	6.3	6.4	6.5	6.8	5.9	6.1	5.9	4.9	6.4	6.0	6.1	5.9	5.7					
8700536	6.8 6.7	7.8	6.9	6.9	6.0	7.4	6.2	6.6	6.9											
8700544	6.5 7.7	7.3	5.6																	
8700549	7.1 7.0	7.2	7.1	6.9	7.9	7.3	7.2	7.9	7.0	6.5	6.6	7.0	6.6	6.6						

MEAN 6.76
S.D. 0.57
N 25

PUP STATUS CODES: S-STILLBORN

87012P
 APPENDIX K-1 CONT.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 PUP BODY WEIGHTS

LOW DOSE GRP 2 1.3 PPT		LACTATION DAY 4																		
FEMALE#	MEAN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700412	NOT PREGNANT																			
8700424	8.7 8.1	10.1	7.8	8.4	9.5	M	9.2	8.4	9.4	8.0	8.5	8.7								
8700433	NOT PREGNANT																			
8700438	ALL PUPS DIED BY DAY 21pp																			
8700441	NOT PREGNANT																			
8700448	11.4 11.6	11.9	11.4	12.1	11.4	10.9	11.7	11.0	11.3	11.3	11.4	11.1	11.0							
8700449	8.7 9.3	8.0	7.5	9.3	9.8	8.5	8.8	8.9	8.4	8.4	9.4	9.0	8.4							
8700452	12.6 13.0	12.9	13.2	12.9	11.2	12.2														
8700454	NOT PREGNANT																			
8700457	ALL PUPS DIED BY DAY 21pp																			
8700462	ALL PUPS DIED BY DAY 21pp																			
8700463	11.4 12.4	12.3	11.8	12.6	11.1	10.8	10.2	12.1	9.7	8.8	8.7	8.0	8.5	8.9	7.8					
8700464	8.6 9.4	8.4	8.0	7.7	8.6	9.3	9.2	M	8.8											
8700468	NOT PREGNANT																			
8700473	11.8 12.3	12.7	12.6	12.2	11.5	11.3	11.8	9.7	11.9	11.8										
8700475	11.2 10.9	11.1	10.9	11.6	11.4	11.0	11.4													
8700476	10.3 11.7	10.5	8.8	11.6	9.2	9.2	9.5	10.6	10.7	10.6	10.7	10.6	10.6	9.9	S					
8700487	DID NOT BREED																			
8700488	10.6 11.5	10.5	10.5	10.6	10.2	11.7	11.6	9.5	9.9	10.5	10.4	S								
8700491	NOT PREGNANT																			
8700492	DID NOT BREED																			
8700495	8.8 9.0	9.4	8.5	8.9	8.5	8.5	7.8	8.6	9.6											
8700499	9.9 10.3	10.7	9.8	10.1	10.5	9.9	9.1	10.0	10.8	9.1	10.5	8.8	9.7	9.3	10.2					
8700501	13.4 15.4	12.8	12.0																	
8700502	10.0 10.1	10.6	10.6	10.4	10.8	11.2	10.3	9.3	8.1	10.3	8.1	10.4	10.4							
8700518	7.7 8.4	7.4	7.1	8.3	8.6	7.4	7.2	8.4	7.4	6.5	7.9	7.7	7.5	7.9	7.3	8.0				
8700519	ALL PUPS DIED BY DAY 21pp																			
8700522	10.2 9.0	11.2	10.4	9.7	11.0	10.3	10.0	10.0	10.2	10.2	10.2	10.3	10.4							
8700529	ALL PUPS DIED BY DAY 21pp																			
8700531	9.6 8.6	10.2	10.1	9.1	10.2	9.8	11.0	10.2	9.1	7.5	S									
8700533	6.9 M	D	6.8	D	6.9	M	M	D	M	D										
8700534	7.3 8.3	8.8	8.7	8.1	7.9	7.9	7.9	7.4	5.8	5.1	7.3	7.6	8.1	7.5	3.7					
8700536	10.6 10.7	11.9	10.7	11.1	9.2	10.9	9.7	10.4	10.8											
8700544	8.9 8.9	M	D																	
8700549	10.1 10.1	10.5	9.9	9.5	11.6	10.4	10.2	11.2	9.7	9.3	8.8	10.6	9.9	9.7						

MEAN 9.94
 S.D. 1.66
 N 22

PUP STATUS CODES: S-STILLBORN D-DIED M-MISSING

87012P

APPENDIX K-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

LOW DOSE GRP 2 1.3 PPT																			LACTATION DAY 7				
FEMALE#	MEAN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
8700412	NOT PREGNANT																						
8700424	12.9	12.4	14.9	C	12.3	13.2	M	13.3	12.6	C	12.0	12.9	C										
8700433	NOT PREGNANT																						
8700438	ALL PUPS DIED BY DAY 21pp																						
8700441	NOT PREGNANT																						
8700448	18.7	18.8	19.6	C	19.9	18.4	18.0	C	18.4	C	18.0	C	18.5	C									
8700449	14.9	14.6	13.9	C	C	16.6	14.9	C	15.7	C	C	C	C	C	14.6	C	15.1	13.7					
8700452	19.0	19.3	20.1	19.2	19.5	17.8	18.0																
8700454	NOT PREGNANT																						
8700457	ALL PUPS DIED BY DAY 21pp																						
8700462	ALL PUPS DIED BY DAY 21pp																						
8700463	16.9	17.6	18.2	C	18.8	16.5	15.8	15.6	18.5	14.4													
8700464	14.7	16.3	14.5	C	C	15.1	16.9	C	M	15.9	15.6	13.5	9.5	C	C								
8700468	NOT PREGNANT																						
8700473	18.5	19.3	19.5	19.5	19.2	18.3	17.5	18.6	15.7	C	C												
8700475	16.8	16.2	16.3	16.7	17.3	16.7	16.8	17.3															
8700476	17.3	19.7	17.8	11.1	19.6	C	C	16.5	17.6	C	C	17.8	18.5	C	S								
8700487	DID NOT BREED																						
8700488	17.1	19.0	16.4	16.2	17.5	17.3	17.8	C	C	16.3	16.2	C	S										
8700491	NOT PREGNANT																						
8700492	DID NOT BREED																						
8700495	12.0	12.1	14.4	11.6	10.6	C	11.4	9.9	12.0	14.3													
8700499	16.6	17.2	C	C	C	C	14.9	C	17.8	16.0	18.4	15.6	C	15.9	17.4								
8700501	19.7	21.6	19.4	18.1																			
8700502	16.5	16.8	C	17.9	C	18.2	C	17.1	C	10.4	17.5	C	17.3	17.1									
8700518	12.5	11.3	12.8	14.0	13.7	C	C	11.8	C	C	C	C	C	12.6	C	11.5	12.0						
8700519	ALL PUPS DIED BY DAY 21pp																						
8700522	16.9	14.9	17.6	C	15.9	18.0	17.4	C	16.8	C	17.3	C	17.2	C									
8700529	ALL PUPS DIED BY DAY 21pp																						
8700531	15.2	C	15.8	16.3	14.4	C	16.4	16.7	16.0	14.1	12.1	S											
8700533	11.2	M	D	11.1	D	11.2	M	M	D	M	M	D											
8700534	12.9	12.7	13.6	13.9	13.1	C	C	13.0	12.3	C	C	12.0	12.5	C	C	C							
8700536	16.2	16.1	17.7	16.2	16.3	14.8	16.8	C	15.8	16.1													
8700544	11.9	11.9	M	D																			
8700549	17.3	17.4	C	17.1	C	19.3	C	16.9	C	17.7	15.9	16.0	17.8	C	C								
MEAN	15.71																						
S.D.	2.51																						
N	22																						

MEAN 15.71
S.D. 2.51
N 22

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED M-MISSING

87012P
 APPENDIX K-1 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 PUP BODY WEIGHTS

LOW DOSE GRP 2 1.3 PPT				PUP BODY WEIGHTS														LACTATION DAY 14				
FEMALE#	MEAN	1	PUP# 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
8700412	NOT PREGNANT																					
8700424	23.2	23.8	26.7	C	22.5	22.8	M	23.1	23.6	C	20.1	22.8	C									
8700433	NOT PREGNANT																					
8700438	ALL PUPS DIED BY DAY 21pp																					
8700441	NOT PREGNANT																					
8700448	33.0	32.9	35.0	C	35.3	33.4	31.0	C	32.5	C	31.5	C	32.2	C								
8700449	31.2	30.0	30.8	C	C	34.7	30.4	C	31.5	C	C	C	C	C	31.1	C	32.2	29.2				
8700452	35.9	36.1	36.4	36.6	36.3	35.4	34.4															
8700454	NOT PREGNANT																					
8700457	ALL PUPS DIED BY DAY 21pp																					
8700462	ALL PUPS DIED BY DAY 21pp																					
8700463	29.8	30.5	32.5	C	31.0	29.1	27.9	28.7	30.7	27.7												
8700464	30.9	32.7	30.2	C	C	29.5	32.9	31.8	31.6	27.7	D	C	C									
8700468	NOT PREGNANT																					
8700473	32.5	34.2	33.7	34.0	32.4	32.6	32.2	32.1	28.8	C	C											
8700475																						
8700476	37.3	39.9	37.9	M	38.0	C	C	33.5	37.7	C	C	35.8	38.1	C	S							
8700487	DID NOT BREED																					
8700488	31.1	32.8	29.0	30.4	31.8	32.1	31.7	C	C	30.7	30.3	C	S									
8700491	NOT PREGNANT																					
8700492	DID NOT BREED																					
8700495	28.7	D	34.1	D	D	C	M	9.7	33.5	37.3												
8700499	32.4	34.2	C	C	C	C	C	28.7	C	34.4	30.9	34.0	31.2	C	31.8	33.8						
8700501	36.7	38.8	36.7	34.5																		
8700502	36.3	36.0	C	37.0	C	37.5	C	35.4	C	Z	35.6	C	36.2	36.2								
8700518	29.1	25.5	30.0	31.4	30.5	C	C	28.6	C	C	C	C	C	28.7	C	28.4	30.0					
8700519	ALL PUPS DIED BY DAY 21pp																					
8700522	30.0	28.4	31.8	C	26.7	31.4	31.0	C	30.6	C	29.9	C	30.3	C								
8700529	ALL PUPS DIED BY DAY 21pp																					
8700531	31.0	C	32.2	32.5	29.9	C	32.3	32.4	32.5	29.5	26.8	S										
8700533	25.9	M	D	24.7	D	27.1	M	H	D	M	H	D										
8700534	24.3	24.8	25.4	25.4	24.5	C	C	24.8	22.7	C	C	23.4	23.7	C	C	C						
8700536	31.3	28.6	33.6	32.4	31.8	29.8	33.1	C	29.7	31.4												
8700544	12.5	12.5	M	D																		
8700549	35.4	34.5	C	35.2	C	38.2	C	35.1	C	35.9	34.3	33.3	36.6	C	C							
MEAN	30.40																					
S.D.	5.60																					
N	21																					

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012P

APPENDIX K-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

LOW DOSE GRP 2		1.3 PPT		PUP BODY WEIGHTS																	
FEMALE#	MEAN	PUP#		LACTATION DAY 21																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
8700412	NOT PREGNANT																				
8700424	36.7 38.0	41.4	C	33.9	35.9	M	38.7	37.5	C	32.2	36.1	C									
8700433	NOT PREGNANT																				
8700438	ALL PUPS DIED BY DAY 21pp																				
8700441	NOT PREGNANT																				
8700448	52.1 53.2	54.4	C	53.7	52.6	49.2	C	51.9	C	49.2	C	52.4	C								
8700449	48.4 50.4	48.0	C	C	55.3	50.2	C	50.3	C	C	C	C									
8700452	57.2 56.6	58.2	58.6	60.7	55.1	54.0															
8700454	NOT PREGNANT																				
8700457	ALL PUPS DIED BY DAY 21pp																				
8700462	ALL PUPS DIED BY DAY 21pp																				
8700463	45.4 47.1	48.8	C	46.2	43.6	44.5	44.0	46.2	42.9												
8700464	48.4 51.1	47.2	C	C	45.7	51.9	C	M	48.0	50.4	44.3	D	C	C							
8700468	NOT PREGNANT																				
8700473	52.0 55.4	55.4	52.9	52.1	50.4	50.8	51.9	47.1	C	C											
8700475	50.2 50.6	50.4	50.9	51.0	47.1	50.6	50.8			C											
8700476	53.1 57.4	55.1	M	54.7	C	C	47.2	53.9	C	C	49.9	53.2	C	S							
8700487	DID NOT BREED																				
8700488	40.0 44.0	37.8	37.8	39.7	39.9	40.9	C	C	41.6	38.2	C	S									
8700491	NOT PREGNANT																				
8700492	DID NOT BREED																				
8700495	58.0 D	57.0	D	D	C	M	Z	57.6	59.4												
8700499	54.1 55.7	C	C	C	C	C	48.8	C	58.6	51.7	55.8	50.3	C	55.1	56.8						
8700501	57.7 61.5	58.6	53.1																		
8700502	57.5 56.6	C	58.3	C	60.0	C	57.7	C	Z	54.3	C	57.5	58.0								
8700518	42.9 40.0	44.4	45.2	44.9	C	C	40.4	C	C	C	C	C	41.3	C	42.4	44.4					
8700519	ALL PUPS DIED BY DAY 21pp																				
8700522	45.6 43.8	47.9	C	40.4	45.5	51.5	C	44.3	C	46.3	C	45.3	C								
8700529	ALL PUPS DIED BY DAY 21pp																				
8700531	47.8 C	49.2	50.3	47.8	C	47.7	49.8	50.4	46.0	41.4	S										
8700533	38.8 M	D	38.4	D	39.1	M	M	D	M	M	D										
8700534	38.0 36.8	40.9	39.9	39.9	C	C	39.1	36.0	C	C	36.0	35.6	C	C	C						
8700536	49.6 47.9	50.8	49.6	49.4	47.8	51.9	C	48.1	51.0												
8700544	ALL PUPS DIED BY DAY 21pp																				
8700549	54.3 53.3	C	52.7	C	61.1	C	55.8	C	55.7	52.2	48.5	55.2	C	C							
MEAN	48.94																				
S.D.	6.74																				
N	21																				

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012P
 APPENDIX K-1 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 PUP BODY WEIGHTS

MID DOSE		GRP 3	4	PPT	PUP BODY WEIGHTS																	LACTATION DAY 0			
FEMALE#	MEAN	1	2	PUP#	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
87D0415	NOT PREGNANT																								
87D0417	7.0	6.6	7.5	7.5	7.5	6.8	7.3	6.9	6.5	7.0	7.1	6.9	6.7	7.1	6.5										
87D0420	6.2	6.9	6.7	6.6	6.5	5.4	6.7	6.5	5.8	5.7	6.1	6.1	6.0	5.6	6.1	6.3									
87D0422	5.8	5.5	5.8	6.2																					
87D0427	6.6	6.8	6.8	6.6	6.7	6.6	6.8	6.9	6.5	6.7	6.3	6.6	6.4	6.8	6.2	S									
87D0432	6.4	6.5	6.4	6.9	6.0	6.2	6.9	7.0	6.8	5.9	6.6	6.4	6.5	5.5	6.1	6.6	5.9								
87D0435	7.1	7.7	7.3	6.6	6.8	7.2	7.5	6.7	7.0	6.7	7.5	7.1													
87D0436	NOT PREGNANT																								
87D0443	8.1	8.6	8.3	7.9	8.2	7.1	8.3																		
87D0444	NOT PREGNANT																								
87D0453	NOT PREGNANT																								
87D0455	NOT PREGNANT																								
87D0456	6.2	6.6	4.8	7.1	6.7	6.1	5.7	6.2	5.6	6.1	7.2														
87D0459	7.7	7.1	7.7	8.2	7.6																				
87D0466	7.2	7.5	7.6	7.1	7.5	7.0	7.1	7.0	7.2	7.6	6.6	7.2	S	6.4	6.7	6.9									
87D0469	6.8	6.5	7.3	7.5	7.2	6.9	6.7	7.3	6.5	6.7	6.7	6.7	6.4	6.4	6.7										
87D0471	7.0	7.9	8.0	7.6	6.6	5.5	7.0	6.6	7.8	6.3	6.5	6.4													
87D0478	5.9	5.1	5.6	5.9	6.2	6.4	5.7	5.9	5.6	5.7	6.3	5.6	6.5	5.8	6.0										
87D0480	7.0	7.9	7.5	6.9	6.2	7.0	7.4	6.2	7.1	7.2	S														
87D0486	NOT PREGNANT																								
87D0489	NOT PREGNANT																								
87D0490	6.9	6.9	7.3	7.6	8.0	7.1	7.2	7.3	7.3	6.5	5.5	5.9	6.4												
87D0493	NOT PREGNANT																								
87D0494	7.4	7.3	7.8	7.2	7.4	7.2	6.7	8.1	7.6	7.6	6.9	7.1													
87D0508	8.0	8.0	8.3	7.9	7.7	7.9																			
87D0511	6.3	6.6	5.6	6.6	7.3	6.5	7.5	5.5	6.4	6.2	6.5	6.1	6.2	5.3	5.3	6.0									
87D0515	6.0	6.3	6.3	6.0	6.5	6.2	6.2	6.0	6.0	5.7	5.4	6.1	6.2	5.9	5.3	6.0	6.3								
87D0516	5.6	6.1	6.1	5.8	5.9	5.9	5.5	5.7	5.2	5.1	5.2	4.9	6.2	4.8	5.8	6.3									
87D0524	NOT PREGNANT																								
87D0526	6.7	6.6	7.5	6.7	6.9	6.9	7.0	6.5	6.6	6.6	6.7	5.6													
87D0527	6.3	6.5	6.9	6.0	6.2	6.2	6.0	6.3	6.9	6.6	6.1	6.2	5.8	6.7	5.9	5.5									
87D0537	7.0	7.3	7.6	7.6	5.0	6.8	7.4	7.1	7.2	5.8	7.0	7.2	7.0	7.5	S										
87D0543	6.4	6.2	6.5	5.9	6.6	6.6	6.2	6.6	6.2	6.5	6.5	6.5	5.9	6.6											
87D0547	7.1	6.8	7.4	7.1	6.9	7.1	7.0	6.9	7.1	7.4															

MEAN 6.74
 S.D. 0.64
 N 25

PUP STATUS CODES: S-STILLBORN

87012P

APPENDIX K-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

MID DOSE: GRP 3 4 PPT					POP 8001 WEIGHS																		
					LACTATION DAY: 4																		
FEMALE#	MEAN	1	2	PUP#	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
8700415	NOT PREGNANT																						
8700417	10.3	10.3	11.1	11.1	11.0	10.5	10.8	10.4	10.4	9.2	9.4	10.3	10.5	10.6	10.5	8.8							
8700420	7.6	8.2	8.0	7.3	7.8	D	7.7	8.7	8.7	7.3	7.2	6.7	7.5	8.1	6.6	7.4	7.9						
8700422	ALL PUPS DIED BY DAY 21PP																						
8700427	9.6	9.8	10.5	7.9	10.7	8.4	10.2	11.0	11.0	10.5	11.0	8.2	10.1	8.8	8.0	9.3	S						
8700432	8.2	7.9	6.7	9.0	8.0	8.8	7.1	8.4	9.7	6.8	8.3	8.2	8.2	9.0	7.8	9.1	8.5	7.4					
8700435	11.5	11.3	11.4	10.0	11.4	11.9	12.5	11.1	11.1	11.2	11.6	12.2	11.8										
8700436	NOT PREGNANT																						
8700443	12.9	13.5	13.3	12.4	12.9	12.3	13.2																
8700444	NOT PREGNANT																						
8700453	NOT PREGNANT																						
8700455	NOT PREGNANT																						
8700456	11.0	11.1	8.2	12.1	11.6	11.1	10.6	11.8	11.8	10.4	11.1	11.8											
8700459	12.5	12.7	11.0	13.9	12.5																		
8700466	11.1	11.6	11.8	11.2	11.5	10.9	10.8	11.3	11.3	10.7	11.4	10.1	11.2	S	9.9	9.7	11.3						
8700469	10.4	10.6	11.2	11.1	11.0	9.3	9.9	9.8	11.0	11.1	11.1	10.4	9.4	9.9	9.7	9.7	11.3						
8700471	10.7	12.2	12.0	12.0	10.5	9.7	11.0	10.4	11.3	9.2	9.2	9.4	9.5	7.1	7.7	7.3	D						
8700478	7.4	D	6.1	7.7	8.2	7.7	6.5	8.2	6.9	7.0	8.4	7.1	7.7	7.7	7.3	D							
8700480	12.6	14.3	13.0	11.5	10.0	12.8	13.5	D	13.4	12.5	S												
8700486	NOT PREGNANT																						
8700489	NOT PREGNANT																						
8700490	10.1	10.1	10.4	11.5	9.5	10.9	10.7	11.2	11.2	10.7	9.8	7.7	9.0	9.6									
8700493	NOT PREGNANT																						
8700494	9.8	10.0	10.6	9.1	10.5	9.7	9.1	10.7	10.7	9.8	10.0	8.2	9.9										
8700508	13.3	13.2	13.3	13.8	12.6	13.7																	
8700511	9.0	9.5	8.1	9.0	9.7	8.9	10.4	8.2	8.2	9.6	8.5	9.1	8.5	8.9	8.4	7.6	7.4						
8700515	8.0	8.2	8.6	7.5	9.3	8.9	7.7	8.1	7.3	7.5	8.2	8.2	8.5	7.9	7.6	7.6	7.4						
8700516	ALL PUPS DIED BY DAY 21PP																						
8700524	NOT PREGNANT																						
8700526	9.6	9.5	10.5	9.7	9.7	9.6	10.1	9.7	9.7	9.9	9.8	9.7	7.8										
8700527	10.2	10.8	11.2	9.2	10.4	9.9	9.7	10.9	10.9	10.5	11.0	10.6	10.3	10.0	10.6	9.5	8.0						
8700537	9.9	9.7	10.5	10.5	6.0	9.1	10.6	10.5	10.5	10.2	M	9.9	10.1	10.2	11.7								
8700543	8.9	8.7	8.2	7.7	9.5	9.1	9.0	9.3	9.3	9.0	8.6	8.6	9.4	8.8	9.2	S							
8700547	10.8	10.8	11.5	10.4	10.3	10.5	11.0	10.7	11.2	11.2	10.9												

MEAN 10.23
S.D. 1.65
N 23

PUP STATUS CODES: S-STILLBORN D-DIED M-MISSING

87012P

APPENDIX K-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

MID DOSE GRP 3 4 PPT			PUP WEIGHTS																			
FEMALE#	MEAN	PUP#		LACTATION DAY																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
8700415	NOT PREGNANT																					
8700417	17.5	16.7	18.5	18.6	18.1	C	17.8	17.1	C	15.7	C	C	17.1	C	C							
8700420	13.7	15.0	13.7	C	D	12.3	15.5	13.2	C				14.4	C	12.7	C						
8700422	ALL PUPS DIED BY DAY 21PP																					
8700427	12.4	9.3	16.5	8.8	17.1	10.2	C	C	C	C	C	14.5	C	8.1	14.3	S						
8700432	13.5	12.9	C	C	C	C	13.3	C	11.5	13.9	13.6	15.0	13.0	15.1	C	C						
8700435	18.3	18.5	18.2	16.7	18.9	C	17.9	17.8	C													
8700436	NOT PREGNANT																					
8700443	21.6	21.8	21.9	20.8	22.4	20.9	21.7															
8700444	NOT PREGNANT																					
8700453	NOT PREGNANT																					
8700455	NOT PREGNANT																					
8700456	16.6	16.8	13.1	18.1	17.6	C	C	17.5	15.7	16.8	17.4											
8700459	19.6	20.4	17.1	21.1	19.7																	
8700466	17.7	17.7	18.3	18.0	18.3	17.1	16.6	17.8	C	17.7	C	C	16.2	16.4	C	16.6	17.7					
8700469	17.1	17.3	C	C	C	C	C	16.6	C	18.8	17.4	16.2	16.4	C								
8700471	16.6	18.4	18.2	18.0	15.5	15.1	16.2	16.4	C	14.7	C											
8700478	13.7	D	10.3	14.9	15.0	14.9	11.9	C	12.5	C	15.6	C		14.5	C	D						
8700480	19.2	21.4	19.8	17.8	16.7	19.6	20.4	D	19.7	19.0	S											
8700486	NOT PREGNANT																					
8700489	NOT PREGNANT																					
8700490	16.9	16.7	18.0	C	C	17.9	18.0	C	17.7	15.9	C	15.2	15.5									
8700493	NOT PREGNANT																					
8700494	15.4	16.2	17.3	15.3	18.0	16.1	15.1	C	C	16.4	8.4	C										
8700508	19.1	19.7	18.9	19.4	17.5	19.9																
8700511	15.3	16.0	13.7	14.4	16.8	C	16.8	13.3	15.9	C	C	C	C	15.1	C							
8700515	13.9	13.8	14.5	C	16.0	15.0	13.8	C	C	C	C	C	13.3	C	12.4	12.2						
8700516	ALL PUPS DIED BY DAY 21PP																					
8700524	NOT PREGNANT																					
8700526	15.7	16.0	17.7	15.5	15.5	C	C	16.1	15.9	C	16.0	12.8										
8700527	18.2	C	19.8	16.6	18.4	C	C	C	19.1	C	18.7	17.3	17.3	18.5	C	C						
8700537	15.2	15.8	18.6	12.7	8.8	C	17.8	18.2	16.9	M	C	12.9	C									
8700543	13.9	14.4	8.9	C	15.6	15.7	C	15.3	9.8	15.4	16.5	16.3	C	C	S							
8700547	15.9	15.7	17.3	C	15.0	15.6	16.0	15.4	16.5	16.0												
MEAN	16.38																					
S.D.	2.33																					
N	23																					

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED M-MISSING

87012P

APPENDIX K-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANTIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

MID DOSE GRP 3 4 PPT					PUP BODY WEIGHTS																				
FEMALE# MEAN					PUP#		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700415 NOT PREGNANT																									
8700417	34.1	33.2	34.4	35.8	35.3	C	34.9	33.7	C	32.2	C	24.9	C	33.0	C	30.2	C								
8700420	25.8	28.5	24.3	C	C	D	16.3	26.4	26.4	C											C				
8700422 ALL PUPS DIED BY DAY 21pp																									
8700427	38.9	D	40.7	D	43.1	D	C	C	C	C	C	C	32.9	C	D	D	S								
8700432	25.0	25.0	C	C	C	C	C	22.6	C	23.4	26.2	25.3	26.7	24.7	26.3	C	C								
8700435	32.6	33.0	32.5	30.8	32.9	C	C	31.8	32.3	C	33.7	33.6													
8700436 NOT PREGNANT																									
8700443	34.4	35.0	35.0	33.7	35.0	33.7	34.1																		
8700444 NOT PREGNANT																									
8700453 NOT PREGNANT																									
8700455 NOT PREGNANT																									
8700456	29.9	29.8	26.6	31.0	30.7	C	C	30.7	29.1	29.9	31.2														
8700459	37.4	36.3	37.0	39.5	36.6																				
8700466	33.6	32.9	34.3	34.7	33.6	32.5	33.7	C	33.0	C	31.2	30.7	30.6	S	30.2	31.9									
8700469	31.1	31.2	C	C	C	C	30.5	C	32.4	31.2	C	C													
8700471	30.2	33.1	32.8	31.9	28.4	28.2	29.0	30.1	C	28.0	C	32.2	C	30.9	C	D									
8700478	30.3	D	26.2	32.7	32.8	31.7	27.3	C	28.6	C	32.2	C													
8700480	32.5	34.4	33.6	31.5	29.5	33.5	32.8	D	32.6	32.3	S														
8700486 NOT PREGNANT																									
8700489 NOT PREGNANT																									
8700490	32.5	31.1	34.1	C	C	34.2	34.4	C	34.5	31.4	C	29.8	30.3												
8700493 NOT PREGNANT																									
8700494	31.9	32.4	33.5	33.7	30.4	31.7	30.1	C	C	31.4	Z	C													
8700508	36.9	38.9	36.4	36.5	34.7	38.2																			
8700511	27.7	28.1	26.2	26.4	29.5	C	29.9	25.0	28.6	C	C	C	27.5	C	28.5	28.3									
8700515	30.2	29.6	31.6	C	33.0	31.6	30.4	C	C	C	C	C	28.4	C											
8700516 ALL PUPS DIED BY DAY 21pp																									
8700524 NOT PREGNANT																									
8700526	30.9	31.7	34.3	30.7	30.3	C	C	31.7	31.0	C	31.6	26.0													
8700527	34.1	C	35.2	32.7	35.2	C	C	C	35.9	C	35.1	32.7	32.5	33.2	C	C									
8700537	34.8	35.4	40.3	H	24.7	C	38.0	30.3	40.0	H	C	D	C	C	S										
8700543	32.1	32.4	D	C	C	31.2	32.6	C	31.7	D	32.2	32.7	C	C											
8700547	31.3	31.1	33.9	C	30.9	30.5	30.7	30.4	32.3	30.7															
MEAN					32.09																				
S.D.					3.36																				
					23																				

MEAN 32.09
S.D. 3.36
N 23

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012P

APPENDIX K-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

MID DOSE GRP 3 4 PPT			LACTATION DAY 21																		
FEMALE#	MEAN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
8700415	NOT PREGNANT																				
8700417	53.6	49.6	56.4	59.2	54.3	C	54.2	51.6	C	49.2	C	C	54.1	C	C						
8700420	44.1	45.3	39.6	C	C	D	D	47.8	45.1	C	41.7	C	45.8	C	43.3	C					
8700422	ALL PUPS DIED BY DAY 21pp																				
8700427	64.0	D	66.1	D	71.0	D	C	C	C	C	C	C	54.9	C	D	D	S				
8700432	44.4	44.5	C	C	C	C	C	D	C	41.0	46.5	43.2	45.3	43.0	47.1	C	C				
8700435	50.4	51.2	52.3	47.9	50.8	C	C	48.0	48.3	C	52.6	51.9									
8700436	NOT PREGNANT																				
8700443	56.3	58.5	58.8	55.4	54.5	56.2	54.4														
8700444	NOT PREGNANT																				
8700453	NOT PREGNANT																				
8700455	NOT PREGNANT																				
8700456	45.2	45.3	41.6	44.8	45.9	C	C	47.6	45.2	42.6	48.4										
8700459	58.4	58.1	58.3	60.4	56.8																
8700466	51.2	51.7	53.0	53.0	53.2	49.4	48.2	50.3	C	51.1	C	C	S								
8700469	48.4	48.2	C	C	C	C	C	47.4	C	50.2	49.6	46.7	48.0	C	46.1	50.8					
8700471	43.9	46.5	48.1	46.4	41.7	41.6	43.0	43.1	C	40.6	C										
8700478	46.8	D	41.5	50.7	51.2	49.1	42.3	C	42.9	C	50.2	C	46.3	C	D						
8700480	49.2	49.7	50.0	49.7	46.0	50.8	48.3	D	49.2	50.1	S										
8700486	NOT PREGNANT																				
8700489	NOT PREGNANT																				
8700490	52.8	50.9	56.5	C	C	54.8	56.1	C	54.8	51.9	C	49.5	47.7								
8700493	NOT PREGNANT																				
8700494	50.7	52.4	52.6	53.8	48.7	50.7	49.4	C	C	47.4	Z	C									
8700508	51.6	54.6	49.2	51.9	49.6	52.6															
8700511	42.9	44.0	41.1	40.6	46.0	C	45.1	39.7	44.2	C	C	C	42.1	C							
8700515	47.5	46.1	45.6	C	51.5	49.4	48.5	C	C	C	C	C	46.5	C	45.9	46.6					
8700516	ALL PUPS DIED BY DAY 21pp																				
8700524	NOT PREGNANT																				
8700526	46.4	47.6	53.3	47.7	47.2	C	C	46.2	43.7	C	47.8	37.4									
8700527	52.8	C	55.5	50.2	55.4	C	C	C	57.9	C	52.8	50.5	50.5	49.4	C	C					
8700537	51.1	51.9	59.1	M	40.8	C	56.3	38.4	60.2	M	C	D	C	C							
8700543	49.5	49.1	D	C	C	49.1	48.7	C	48.0	D	50.4	51.9	C	C	S						
8700547	50.3	50.5	55.3	C	47.8	49.8	48.5	48.4	52.8	49.1											
MEAN		50.06																			
S.D.		5.01																			
N		23																			

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012P

APPENDIX K-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

HIGH DOSE GRP 4 12.7 PPT																				
FEMALE#		MEAN		PUP/#		LACTATION DAY 0														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700414	6.9	6.7	7.8	7.4	7.4	6.6	6.8	7.1	6.9	6.7	7.0	7.1	6.2	6.5	7.0	S				
8700416	NOT PREGNANT																			
8700418	DID NOT BREED																			
8700419	NOT PREGNANT																			
8700423	NOT PREGNANT																			
8700426	6.1	6.3	5.9	6.1	6.7	6.8	6.0	5.9	5.6	6.2	6.6	5.3	U							
8700429	6.8	7.2	6.8	7.2	6.7	6.8	7.6	7.0	6.6	6.8	6.8	6.1	6.3							
8700434	7.8	7.9	8.1	7.5	7.6															
8700439	PREGNANT, NO PUPS DELIVERED																			
8700450	5.9	6.1	6.3	6.4	5.9	6.5	5.7	6.3	5.9	5.0	5.9	6.2	5.6	5.5	5.6					
8700451	NOT PREGNANT																			
8700458	NOT PREGNANT																			
8700467	6.8	7.5	6.3	7.2	6.3	6.5	6.5	6.4	6.8	6.9	6.7	6.7	7.4	S						
8700477	6.4	7.3	6.9	6.5	6.8	6.5	6.7	6.7	5.6	6.6	5.9	6.0	6.6	6.1	6.0					
8700481	NOT PREGNANT																			
8700482	NOT PREGNANT																			
8700485	NOT PREGNANT																			
8700497	NOT PREGNANT																			
8700500	7.0	6.6	7.3	7.1	7.0	6.8	6.9	7.2												
8700503	6.5	6.3	6.9	6.2	6.9	6.7	6.8	6.4	6.4	6.1	6.7	5.4	6.8	6.3	6.5					
8700504	6.4	6.9	6.4	6.2	6.3	6.9	5.9	6.4	6.3	6.0	6.6	6.4	S							
8700505	5.9	5.8	6.0	5.8	5.7	6.2	6.6	5.8	5.7	5.8	5.7	5.4	S							
8700506	6.2	6.2	6.3	6.3	6.8	6.6	6.6	6.3	5.9	6.1	5.7	5.6	5.9							
8700510	6.5	7.2	7.0	6.7	6.2	6.4	5.7													
8700513	7.1	7.5	7.4	7.5	8.1	6.9	6.3	6.9	6.5	6.8	7.4									
8700514	NOT PREGNANT																			
8700517	6.9	6.8	7.0	7.4	7.4	7.4	6.6	6.3	6.6	6.9	7.2	6.8	6.5							
8700521	PREGNANT, NO PUPS DELIVERED																			
8700528	6.7	6.3	6.5	7.2	6.8	6.5	6.7	6.9	6.6	7.1	6.5	6.8	6.7	6.2						
8700530	NOT PREGNANT																			
8700532	NOT PREGNANT																			
8700538	6.0	6.3	6.1	5.9	6.4	6.8	5.4	6.3	6.2	5.7	6.0	4.9	5.7	S						
8700539	7.5	7.8	7.6	7.0	7.4	7.1	7.9	7.9	7.6	7.5										
8700540	7.1	6.9	6.7	7.5	7.4	7.8	6.7	7.3	7.2	6.9	7.2	6.3								
MEAN	6.66																			
S.D.	0.53																			
N	19																			

PUP STATUS CODES: S-STILLBORN U-UNCERTAIN

87012P
 APPENDIX K-1 CONT.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 PARENTAL GENERATION
 PUP BODY WEIGHTS

FEMALE#	MEAN	HIGH DOSE GRP 4 12.7 PPT		LACTATION DAY 4																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700414	9.8	10.3	10.4	10.5	10.6	9.7	8.6	10.2	10.2	9.6	9.3	9.6	9.2	9.1	9.7	S				
8700416	NOT PREGNANT																			
8700418	DID NOT BREED																			
8700419	NOT PREGNANT																			
8700423	NOT PREGNANT																			
8700426	8.9	9.1	8.1	8.5	9.5	9.7	9.1	8.7	8.4	9.1	9.9	7.4	U							
8700429	10.1	10.4	10.6	10.2	10.1	9.7	10.7	10.8	9.7	9.8	10.1	9.1	9.4							
8700434	12.4	11.7	13.4	12.1	12.4															
8700439	PREGNANT, NO PUPS DELIVERED																			
8700450	8.6	9.3	9.6	9.3	7.9	9.7	8.2	9.0	7.9	7.8	8.2	8.3	8.2	8.2	8.6					
8700451	NOT PREGNANT																			
8700458	NOT PREGNANT																			
8700467	10.0	10.1	9.1	10.7	10.1	9.8	9.6	9.9	10.0	10.4	10.2	10.1	10.5	S						
8700477	9.4	10.3	9.9	9.4	10.3	9.6	9.6	10.0	8.9	9.4	9.1	8.1	9.7	8.8	8.9					
8700481	NOT PREGNANT																			
8700482	NOT PREGNANT																			
8700485	NOT PREGNANT																			
8700497	NOT PREGNANT																			
8700500	13.0	12.4	13.8	13.5	12.7	12.7	12.9	12.9	9.4	8.6	9.1	7.4	9.5	8.5	9.1					
8700503	9.1	9.4	9.8	8.8	9.9	10.0	9.2	8.5	9.7	9.4	10.4	10.1	S							
8700504	9.9	10.5	9.7	9.8	9.2	10.9	9.2	9.9	9.7	9.4	10.4	10.1	S							
8700505	9.9	9.4	9.5	10.4	9.9	10.3	11.1	10.0	10.0	8.9	9.1	10.0	S							
8700506	9.8	9.8	10.3	10.3	10.2	10.5	10.1	10.1	9.0	9.3	9.4	9.4	9.5							
8700510	8.2	8.4	8.6	7.6	D	8.3	M													
8700513	11.3	12.0	11.7	11.2	12.8	11.1	9.6	11.2	10.5	11.2	11.9									
8700514	NOT PREGNANT																			
8700517	10.7	11.1	10.2	10.8	11.8	11.2	9.9	9.8	10.5	10.7	11.1	10.4	10.7							
8700521	PREGNANT, NO PUPS DELIVERED																			
8700528	6.9	5.4	5.6	6.9	8.3	7.2	6.1	8.3	6.7	7.1	5.9	7.1	8.1	6.9						
8700530	NOT PREGNANT																			
8700532	NOT PREGNANT																			
8700538	7.6	8.0	6.9	6.1	8.7	8.9	M	7.8	8.0	7.7	7.1	6.0	8.4	S						
8700539	11.4	11.6	11.2	10.4	11.7	11.4	12.0	11.8	11.0	11.3										
8700540	10.6	10.1	10.4	11.1	11.3	11.1	9.8	10.7	11.0	10.5	10.7	9.6								
MEAN	9.87																			
S.D.	1.53																			
N	19																			

PUP STATUS CODES: S-STILLBORN U-UNCERTAIN D-DIED M-MISSING

87012P

APPENDIX K-1 CONT.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

HIGH DOSE GRP 4 12.7 PPT										LACTATION DAY 7										
FEMALE#	MEAN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700414	14.7	14.9	15.3	15.3	15.7	C	C	14.8	C	14.2	C	13.7	C	13.6	C	S	S			
8700416	NOT PREGNANT																			
8700418	DID NOT BREED																			
8700419	NOT PREGNANT																			
8700423	NOT PREGNANT																			
8700426	14.3	14.6	13.6	C	14.9	15.7	14.5	13.3	13.8	14.2	C	C	U							
8700429	15.7	16.5	C	16.0	C	15.5	C	16.6	C	15.8	15.6	14.3	14.9							
8700434	19.2	15.4	21.1	20.1	20.3															
8700439	PREGNANT, NO PUPS DELIVERED																			
8700450	13.8	14.8	15.4	C	C	15.2	13.7	C	12.9	12.0	C	C	12.6	13.5	C					
8700451	NOT PREGNANT																			
8700458	NOT PREGNANT																			
8700467	16.0	16.4	15.0	16.8	15.3	C	15.6	15.8	15.9	C	17.1	C	C	S						
8700477	15.3	C	16.0	15.5	16.9	C	C	C	14.8	C	15.1	13.6	C	14.9	15.4					
8700481	NOT PREGNANT																			
8700482	NOT PREGNANT																			
8700485	NOT PREGNANT																			
8700497	NOT PREGNANT																			
8700500	18.5	17.8	19.8	19.0	17.7	18.2	18.6	18.2												
8700503	15.2	14.7	15.5	C	16.0	16.0	C	14.6	15.9	14.5	C	C	C	14.6	C					
8700504	14.8	15.8	14.7	C	13.8	15.9	14.3	14.9	14.7	14.3	C	C	S							
8700505	9.7	9.6	10.0	C	C	10.4	10.5	C	9.0	9.6	8.8	9.3	S	S						
8700506	16.8	17.1	17.6	18.0	17.1	C	C	17.3	15.6	15.2	16.1	C	C							
8700510	12.8	13.1	13.5	11.5	D	13.0	M													
8700513	17.0	17.7	17.9	17.4	18.4	16.7	15.0	17.1	16.0	C	C									
8700514	NOT PREGNANT																			
8700517	17.3	18.1	16.9	C	18.8	17.9	15.9	15.9	C	C	18.1	16.7	C							
8700521	PREGNANT, NO PUPS DELIVERED																			
8700528	9.5	C	6.1	6.7	11.7	C	C	C	10.2	C	6.8	11.9	12.9	9.5						
8700530	NOT PREGNANT																			
8700532	NOT PREGNANT																			
8700538	13.1	14.3	8.6	D	15.6	C	M	C	14.2	13.9	C	10.2	15.0	S						
8700539	17.2	17.3	17.5	16.4	17.8	16.8	17.6	C	17.1	17.2	C									
8700540	17.2	16.4	17.2	C	18.0	17.7	15.8	16.9	18.5	17.1	C	C								
MEAN	15.15																			
S.D.	2.61																			
N	19																			

MEAN 15.15
S.D. 2.61
N 19

PUP STATUS CODES: S-STILLBORN U-UNCERTAIN D-DIED C-CULLED M-MISSING

87012P

APPENDIX K-1 CONT.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

HIGH DOSE GRP 4 12.7 PPT																			LACTATION DAY 14				
FEMALE#	MEAN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
8700414	28.4	29.2	29.5	29.0	29.9	C	C	27.8	C	27.5	C	26.7	C	27.3	C	S	S						
8700416	NOT PREGNANT																						
8700418	DID NOT BREED																						
8700419	NOT PREGNANT																						
8700423	NOT PREGNANT																						
8700426	27.7	28.4	27.8	C	28.7	29.3	27.8	25.2	27.0	27.2	C	C	U										
8700429	27.6	29.2	C	28.4	C	27.6	C	28.5	C	27.5	28.7	25.3	25.8										
8700434	38.3	D	39.7	37.4	37.9																		
8700439	PREGNANT, NO PUPS DELIVERED																						
8700450	26.4	26.8	28.3	C	C	28.1	25.9	C	24.5	24.6	C	C	26.0	26.7	C								
8700451	NOT PREGNANT																						
8700458	NOT PREGNANT																						
8700467	28.7	28.9	27.9	30.9	27.7	C	27.8	28.5	28.7	C	29.5	C	C	S									
8700477																							
8700481	NOT PREGNANT																						
8700482	NOT PREGNANT																						
8700485	NOT PREGNANT																						
8700497	NOT PREGNANT																						
8700500	33.5	33.7	34.8	33.7	32.0	33.6	33.2	33.2	28.6	28.3	C	C	C	28.0	C								
8700503	28.2	27.7	27.1	C	29.6	29.2	C	27.2	28.7	27.5	C	C	C	S									
8700504	28.4	29.6	27.8	C	27.9	28.9	28.4	28.5	28.7	27.5	C	C	S	S									
8700505	34.0	34.6	29.1	C	C	34.7	37.3	C	34.6	D	33.0	34.6	S	S									
8700506	31.4	31.1	33.0	32.4	33.3	C	C	32.3	28.9	28.7	31.3	C	C										
8700510	27.9	26.7	30.8	27.6	D	26.6	M																
8700513	32.5	33.8	33.7	32.5	34.5	31.8	30.9	32.2	30.2	C	C												
8700514	NOT PREGNANT																						
8700517	32.3	34.2	31.6	C	34.8	33.8	29.9	30.5	C	C	33.1	30.5	C										
8700521	PREGNANT, NO PUPS DELIVERED																						
8700528	33.2	C	D	D	D	C	C	C	30.8	C	D	34.3	34.6	D									
8700530	NOT PREGNANT																						
8700532	NOT PREGNANT																						
8700538	34.4	34.3	D	D	35.8	C	M	C	34.3	33.3	C	D	34.4	S									
8700539	32.5	32.3	32.5	31.6	33.5	32.3	33.3	C	32.5	32.3	C	C											
8700540	31.9	30.9	32.2	C	33.9	32.7	31.2	28.7	34.3	31.6	C	C											
MEAN	30.96																						
S.D.	3.19																						
N	16																						

PUP STATUS CODES: S-STILLBORN U-UNCERTAIN D-DIED C-CULLED M-MISSING

87012P

APPENDIX K-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
PUP BODY WEIGHTS

HIGH DOSE GRP 4 12.7 PPT										POP BODY WEIGHTS										LACTATION DAY 21				
FEMALE#	MEAN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
8700414	42.7	43.4	46.1	42.6	44.6	C	C	41.7	C	40.6	C	41.0	C	41.6	C	S								
8700416	NOT PREGNANT																							
8700418	DID NOT BREED																							
8700419	NOT PREGNANT																							
8700423	NOT PREGNANT																							
8700426	42.0	44.4	43.0	C	41.2	46.0	40.5	38.9	41.0	40.9	C	C	U											
8700429	45.9	49.4	C	44.4	C	44.1	C	48.3	C	44.9	48.8	42.9	44.1											
8700434	62.7	D	65.6	60.6	61.8																			
8700439	PREGNANT, NO PUPS DELIVERED																							
8700450	41.5	44.0	45.7	C	C	42.4	40.2	C	39.2	38.7	C	C	39.7	42.3	C									
8700451	NOT PREGNANT																							
8700458	NOT PREGNANT																							
8700467	46.5	45.8	44.4	49.9	45.9	C	46.5	46.1	46.3	C	47.0	C	C	S										
8700477	48.6	C	53.8	47.7	53.4	C	C	C	46.2	C	47.9	44.6	C	46.0	48.9									
8700481	NOT PREGNANT																							
8700482	NOT PREGNANT																							
8700485	NOT PREGNANT																							
8700497	NOT PREGNANT																							
8700500	53.4	53.8	57.7	55.1	47.9	55.2	52.4	51.6																
8700503	40.6	41.4	37.1	C	46.9	40.0	C	40.9	39.0	41.0	C	C	C	38.3	C									
8700504	40.7	42.9	40.4	C	41.4	41.7	41.1	39.9	39.7	38.7	C	C	S											
8700505	51.5	49.3	46.1	C	C	54.8	58.1	C	49.3	D	49.9	52.9	S	S										
8700506	45.1	45.2	47.9	47.0	45.9	C	C	46.5	41.5	41.7	44.8	C	C											
8700510	44.3	44.2	46.7	45.0	D	41.4	H																	
8700513	47.8	50.4	51.4	47.4	48.6	46.6	44.9	47.9	45.5	C	C													
8700514	NOT PREGNANT																							
8700517	49.5	55.0	47.2	C	49.1	52.7	42.0	48.7	C	C	52.0	48.9	C											
8700521	PREGNANT, NO PUPS DELIVERED																							
8700528	53.1	C	D	D	D	C	C	C	51.4	C	D	53.1	54.8	D										
8700530	NOT PREGNANT																							
8700532	NOT PREGNANT																							
8700538	53.2	51.2	D	D	54.4	C	H	C	54.4	51.9	C	D	54.1	S										
8700539	50.7	48.6	49.9	51.0	52.8	49.7	53.7	C	50.0	49.7	C													
8700540	43.7	43.2	43.9	C	47.4	45.9	42.5	37.9	46.9	41.5	C	C												
MEAN	47.54																							
S.D.	5.66																							
N	19																							

MEAN 47.54
S.D. 5.66
N 19

PUP STATUS CODES: S-STILLBORN U-UNCERTAIN D-DIED C-CULLED M-MISSING

87012F1

APPENDIX K-2
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP BODY WEIGHTS

CONTROL			GRP 1	0 PPT	PUP BODY WEIGHTS																			
FEMALE#	MEAN	PUP#	LACTATION DAY																					
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
87D00802	NOT PREGNANT																							
87D00810	DID NOT BREED																							
87D00814	6.4	6.6																						
87D00822	7.3	7.2																						
87D00830	6.7	6.6																						
87D00832	NOT PREGNANT																							
87D00838	NOT PREGNANT																							
87D00842	NOT PREGNANT																							
87D00848	6.9	7.4																						
87D00858	6.2	6.1																						
87D00862	6.4	6.0																						
87D00872	6.6	7.2																						
87D00876	6.9	7.9																						
87D00878	6.5	6.3																						
87D00880	6.2	6.5																						
87D00916	NOT PREGNANT																							
87D00922	7.0	6.0																						
87D00936	NOT PREGNANT																							
87D00938	NOT PREGNANT																							
87D00940	6.4	6.2																						
87D00950	DID NOT BREED																							
87D00952	6.7	6.5																						
87D00956	6.2	6.7																						
87D00970	6.6	6.7																						
87D00972	6.2	6.9																						
87D00978	6.2	7.5																						

MEAN 6.56
S.D. 0.32
N 17

PUP STATUS CODES: S-STILLBORN

87012F1

APPENDIX K-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP BODY WEIGHTS

CONTROL			GRP 1	0 PPT	PUP DATA																
FEMALE#	MEAN	PUP#		LACTATION DAY																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
8700802	NOT PREGNANT																				
8700810	DID NOT BREED																				
8700814	9.9 9.1	10.4	11.6	9.3	9.7	9.0	11.7	9.5	7.8	10.9	10.0	9.2	10.1	9.6							
8700822	9.8 11.1	9.1	9.2	10.0	9.9	8.4	9.0	11.6													
8700830	8.8 8.8	8.7	10.2	8.7	6.1	9.7	9.0	9.1	9.0	8.8	8.9	8.6	9.4	S							
8700832	NOT PREGNANT																				
8700838	NOT PREGNANT																				
8700842	NOT PREGNANT																				
8700848	9.5 9.7	9.4	9.6	10.1	9.6	10.2	9.1	9.7	9.9	7.0	9.9	9.6	9.7	10.1							
8700858	9.7 7.6	10.2	8.8	9.0	10.5	9.1	8.7	10.4	10.6	9.5	10.2	9.4	9.3	11.5	10.5						
8700862	11.5 D	12.8	11.6	10.0	Z	11.2	12.0	13.7	9.3	11.6	D	D	S								
8700872	12.6 13.2	13.0	11.7	12.6	12.4	13.0	12.5														
8700876	8.4 D	9.8	8.0	9.2	9.3	8.6	7.5	10.3	4.4												
8700878	11.1 11.3	11.3	11.3	11.8	11.8	9.6	9.8	11.5	10.6	11.2	10.8	12.0	11.4	S							
8700880	4.6 M	D	4.7	5.3	D	D	4.2	4.0	M	D	D	D	M	D	D						
8700916	NOT PREGNANT																				
8700922	12.4 D	12.4	13.0	11.8	12.0	12.6	12.9	11.8													
8700936	NOT PREGNANT																				
8700938	NOT PREGNANT																				
8700940	7.0 M	6.8	6.4	M	M	6.4	7.1	8.9	6.6	D	6.2	7.6									
8700950	DID NOT BREED																				
8700952	10.3 M	12.1	12.9	12.9	11.6	11.2	D	8.7	11.4	10.1	9.9	6.8	D	6.0							
8700956	9.1 10.1	10.1	9.7	10.2	9.8	8.9	8.6	8.9	8.5	D	8.4	7.5	8.7								
8700970	7.6 7.3	5.6	8.9	7.0	5.6	8.2	9.2	7.5	8.2	7.3	7.9	8.5	8.6	6.9							
8700972	10.3 11.9	11.8	9.6	7.2	9.9	10.2	10.2	10.9	10.6	11.3	10.6	9.3									
8700978	ALL PUPS DIED BY DAY 21pp																				

MEAN 9.54
S.D. 2.04
N 16

PUP STATUS CODES: S-STILLBORN D-DIED Z-CANNIBALIZED M-MISSING

87012F1
 APPENDIX K-2 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 PUP BODY WEIGHTS

CONTROL GRP 1 0 PPT			PUP BODY WEIGHTS																				
FEMALE# MEAN			PUP#		LACTATION DAY 7																		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
8700802	NOT PREGNANT																						
8700810	DID NOT BREED																						
8700814	15.7	17.9	14.8	15.1	C	C	C	C	C	C	C	C	C	C	16.8	15.4							
8700822	11.4	7.7	9.8	12.0	9.9	7.5	18.6									S							
8700830	11.8	C	C	10.5	17.2	C	16.3	15.6	15.7	15.5	C	C	C	C	C	S							
8700832	NOT PREGNANT																						
8700838	NOT PREGNANT																						
8700842	NOT PREGNANT																						
8700848	17.0	C	17.5	18.0	C	16.5	18.2	17.3	C	C	C	C	C	C	17.3	C							
8700858	16.3	C	C	17.8	15.9	C	17.6	C	17.6	C	14.3	C	15.9	D	S	18.6	C						
8700862	20.1	17.8	15.6	2	17.3	18.3	21.4	14.6	18.8														
8700872	20.5	18.4	19.4	18.7	19.4	19.4	19.4																
8700876	16.5	13.2	14.8	15.2	14.5	7.0	16.3	M	C	C	16.2	18.7	C	C	S								
8700878	18.4	18.2	19.1	C	C	15.6	18.0	C	C	D	D	D	D	D	M	D							
8700880	5.7	M	5.7	D	D	D	D	M	D														
8700916	NOT PREGNANT																						
8700922	19.7	20.6	18.5	18.6	19.3	20.5	17.9																
8700936	NOT PREGNANT																						
8700938	NOT PREGNANT																						
8700940	11.8	10.3	M	M	10.4	11.5	14.8	11.5	D	10.7	12.9												
8700950	DID NOT BREED																						
8700952	20.2	16.9	19.0	20.7	C	D	C	19.4	17.4	C	10.3	D	8.8										
8700956	14.2	16.2	16.9	C	14.3	13.7	C	C	D	13.2	7.1	C	C										
8700970	11.8	9.0	D	C	13.2	C	12.4	C	9.2	C	12.7	C	C										
8700972	16.5	-19.2	19.5	-15.1	11.1	16.2	C	16.2	C	16.8	C	17.5	C										
8700978	ALL PUPS DIED BY DAY 21PP																						

MEAN 14.99
 S.D. 3.51
 N 16

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012F1

APPENDIX K-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP BODY WEIGHTS

CONTROL			GRP 1	0 PPT	PUP BODY WEIGHTS																		
					LACTATION DAY 14																		
FEMALE#	MEAN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
8700802	NOT PREGNANT																						
8700810	DID NOT BREED																						
8700814	31.9	28.4	30.7	35.7	31.1	29.9	C	C	C	C	C	32.1	C	35.5	31.9								
8700822	25.6	17.7	D	D	D	D	D	33.5															
8700830	30.9	32.8	22.5	C	C	26.4	34.6	C	32.4	33.6	32.4	32.3	C	C	S								
8700832	NOT PREGNANT																						
8700838	NOT PREGNANT																						
8700842	NOT PREGNANT																						
8700848	32.8	32.5	31.4	C	31.9	34.3	C	31.6	34.0	32.7	C	C	C	33.8	C								
8700858	33.8	D	35.2	C	C	37.1	35.5	C	38.3	C	15.3	C	35.5	C	39.4	C							
8700862	34.2	D	38.7	34.5	31.6	2	32.7	33.7	39.3	28.7	34.5	D	D	S									
8700872	35.9	35.4	37.9	34.8	36.4	35.2	37.8	34.1															
8700876	34.3	D	37.5	30.9	33.9	34.1	35.0	D	34.2	M	C	30.8	36.8	C	S								
8700878	34.0	34.1	34.8	34.9	36.2	C	C	31.1	33.4	C													
8700880	ALL PUPS DIED BY DAY 21pp																						
8700916	NOT PREGNANT																						
8700922	37.4	D	37.8	36.1	38.2	37.9	36.9	38.0	36.8														
8700936	NOT PREGNANT																						
8700938	NOT PREGNANT																						
8700940	25.6	M	25.2	23.7	M	M	22.7	26.8	30.0	25.2	D	24.9	26.2										
8700950	DID NOT BREED																						
8700952	35.8	M	40.2	M	40.2	41.9	C	D	C	39.7	37.5	C	27.9	D	23.3								
8700956	31.3	31.2	34.0	C	32.6	32.4	31.0	29.4	C	C	D	28.7	M	C									
8700970	31.6	D	D	D	D	C	36.5	C	36.1	C	D	C	22.1	C	C								
8700972	31.3	35.6	36.1	28.6	23.6	30.1	C	31.9	C	31.9	C	32.9	C										
8700978	ALL PUPS DIED BY DAY 21pp																						

MEAN 32.42
S.D. 3.37
N 15

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012F1

APPENDIX K-2 CONT.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP BODY WEIGHTS

CONTROL			GRP 1	0 PPT		LACTATION DAY 21																		
FEMALE#	MEAN	PUP#		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
8700802	NOT PREGNANT																							
8700810	DID NOT BREED																							
8700814	48.7	45.0																						
8700822	44.9	D																						
8700830	44.1	45.3																						
8700832	NOT PREGNANT																							
8700838	NOT PREGNANT																							
8700842	NOT PREGNANT																							
8700848	49.7	50.5																						
8700858	58.0	D																						
8700862	55.3	D																						
8700872	59.1	57.4																						
8700876	50.8	D																						
8700878	53.6	54.8																						
8700880	ALL PUPS DIED BY DAY 21pp																							
8700916	NOT PREGNANT																							
8700922	51.1	D																						
8700936	NOT PREGNANT																							
8700938	NOT PREGNANT																							
8700940	37.5	M																						
8700950	DID NOT BREED																							
8700952	54.3	M																						
8700956	48.3	50.0																						
8700970	59.8	D																						
8700972	48.4	56.3																						
8700978	ALL PUPS DIED BY DAY 21pp																							

MEAN 50.91
S.D. 6.07
N 15

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012F1

APPENDIX K-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP BODY WEIGHTS

LOW DOSE		GRP 2	1.3 PPT		LACTATION DAY 0																		
FEMALE#	MEAN	1	2	PUP#	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
8700808	6.0	6.3	6.5	6.3	5.6	6.7	5.9	5.1	5.9	5.9	6.0	5.1	5.3	6.3	6.3	6.6	S						
8700828	ALL PUPS DIED BY DAY 21PP																						
8700844	6.1	6.3	6.4	6.7	6.8	6.3	6.4	6.5	5.6	5.6	5.5	5.4	5.7										
8700854	5.9	6.6	6.0	5.7	5.7	6.4	5.8	5.8	5.7	5.7	5.8	5.8	6.0	5.3	5.9	6.2	5.6						
8700864	7.4	7.6	7.6	7.0	7.2	7.2	7.1	7.2	6.9	6.4	6.7	6.5	6.4	6.1	S								
8700866	6.7	7.2	7.1	7.2	6.9	6.9	7.5	7.1	6.4	6.4	6.9	6.9	6.3	6.1									
8700886	6.9	7.1	7.2	7.3	6.9	6.9	7.2	7.0	6.9	S													
8700892	7.1	7.5	7.4	7.6	6.2	6.2	7.0	7.0	6.4	7.1	6.9	6.9	6.3	6.1									
8700900	5.7	6.0	6.3	5.8	5.3	6.0	5.1	5.6	5.6	S													
8700902	6.3	6.5	6.4	6.4	6.5	6.4	6.8	6.0	6.2	5.7	6.2	6.2	5.7	6.6	6.2	6.2	S						
8700904	6.3	6.5	6.2	6.7	6.2	6.2	7.0	6.2	6.1	6.5	5.8	6.1	6.5	6.2	S								
8700908	6.4	6.8	6.3	5.8	7.3	7.3	6.5	6.5	6.3	5.8	6.3	6.0	6.2	6.5	6.7	6.7	S						
8700914	6.7	6.5	6.9	6.8	6.8	6.8	7.0	7.3	7.1	6.1	6.8	6.4	6.2	6.5	6.7	6.7	S						
8700926	6.5	7.1	6.9	6.5	6.8	6.7	6.7	6.7	6.2	6.4	6.2	5.6	6.1	6.1									
8700928	6.6	6.8	7.2	7.4	6.3	6.3	5.9	6.7	6.6	6.0	6.7	5.7	7.1	6.5	6.4	S							
8700942	4.7	4.8	4.6	U	4.7	4.6	4.6	4.9	4.5	5.1	5.1	4.6	4.4	4.8	4.4	4.3	5.3						
8700948	7.2	7.7	6.9	7.3	7.3	7.3	7.8	7.9	7.6	6.9	7.0	6.9	5.6	S									
8700958	NOT PREGNANT																						
8700960	7.2	7.7	7.1	7.6	7.5	7.0	6.5	6.7	7.2	7.4	7.2	6.9	6.9	6.8									
8700964	6.5	7.1	6.6	7.4	7.0	6.5	6.0	6.0	5.9	6.7	5.7	6.6	6.2	5.7									
MEAN																							
S.D.																							
N																							

PUP STATUS CODES: S-STILLBORN U-UNCERTAIN

87012F1

APPENDIX K-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP BODY WEIGHTS

LOW DOSE GRP 2		1.3 PPT		PUP BODY WEIGHTS																		
FEMALE#	MEAN	PUP#		LACTATION DAY 4																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
8700808	8.3	8.7	9.1	8.3	8.2	9.4	8.3	7.2	8.3	8.4	7.6	7.8	8.4	8.2	8.8	S						
8700828	ALL PUPS DIED BY DAY 21pp																					
8700844	6.6	7.1	D	6.7	7.6	M	7.3	7.6	D	M	5.2	D										
8700854	9.1	9.7	7.4	9.6	9.7	11.0	10.1	10.4	10.6	4.8	9.6	7.3	6.4	9.8	10.3	9.8						
8700864	13.1	12.6	13.7	13.0	13.1																	
8700866	9.2	10.8	10.0	8.9	9.6	8.5	D	9.7	8.1	9.1	8.7	9.5	8.7									
8700886	10.7	12.0	10.4	11.2	11.1	11.7	10.9	9.9	9.9	11.4	10.3	10.0	9.9	S								
8700892	10.3	11.6	10.6	11.2	9.3	9.0	10.7	9.7	S													
8700900	ALL PUPS DIED BY DAY 21pp																					
8700902	6.1	6.7	D	D	D	D	6.7	6.1	6.2	D	5.5	4.8	D	D	6.5	S						
8700904	8.1	7.9	7.7	8.8	D	8.9	8.2	7.9	D	7.1	6.6	9.1	8.8	S								
8700908	9.7	10.6	9.1	8.9	10.8	8.7	10.0	10.3	9.8	9.9	9.2	8.5	7.1	9.0	9.3	S						
8700914	9.1	9.2	10.1	9.3	9.2	9.5	10.2	9.0	8.5	9.2	8.8	8.5	7.1	9.0	9.3	S						
8700926	6.6	8.4	6.8	7.0	6.6	6.3	6.9	6.1	6.5	6.0	5.5	6.5										
8700928	9.4	10.4	10.0	10.6	8.8	7.4	10.0	9.6	8.7	9.7	7.5	10.6	9.6	9.0	S							
8700942	6.4	6.6	5.8	U	M	6.6	5.3	D	D	D	6.2	M	D	D	D	7.6						
8700948	10.9	10.5	10.8	11.3	10.4	12.7	11.8	12.2	10.5	10.5	10.8	8.4	S									
8700958	NOT PREGNANT																					
8700960	10.6	11.9	10.5	11.7	10.6	10.2	10.8	10.7	10.6	10.1	10.9	9.8	9.9									
8700964	6.9	8.3	D	8.0	7.6	4.7	M	6.0	5.1	D	7.3	8.0	M									
MEAN																						
S.D.																						
N																						

PUP STATUS CODES: S-STILLBORN U-UNCERTAIN D-DIED M-MISSING

87012F1

APPENDIX K-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP BODY WEIGHTS

LOW DOSE		GRP 2	1.3 PPT		LACTATION DAY 7																
FEMALE#	MEAN	1	2	PUP#	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700808	11.8	12.1	C	11.0	C	12.7	C	10.7	C	12.6	10.9	11.4	12.8	C	C	S					
8700828	ALL PUPS	DIED	BY DAY	21PP																	
8700844	11.0	8.0	D	12.8																	
8700854	16.8	11.1	C	15.7	C	20.4	M	8.8	13.8	D	M	9.2	D	C	16.6	C	C				
8700864	20.6	19.6	21.6	20.2	21.0																
8700866	15.8	17.5	17.4	C	16.4	15.4	D	16.6	11.4	15.9	15.7	C	C								
8700886	18.8	20.6	18.2	C	C	20.4	19.8	C	17.6	19.6	C	17.5	16.5	S							
8700892	15.6	18.9	16.2	17.2	14.7	10.4	17.2	14.9	S												
8700900	ALL PUPS	DIED	BY DAY	21PP																	
8700902	7.9	8.7	D	D	D	D	7.7	7.0	8.1	D	D	D	D	D	D	D	S				
8700904	12.4	13.1	12.1	14.7	D	13.9	C	C	D	10.9	8.9	14.7	10.9	S							
8700908	15.8	C	15.3	14.3	17.8	C	16.1	16.5	15.2	16.0	15.2	C	D	16.0	C	S					
8700914	16.9	16.4	17.5	C	C	17.2	18.3	C	9.9	10.5	C	8.3	10.5								
8700926	10.1	13.8	9.4	11.9	6.5	C	C	C	16.0	14.6	C	C	17.6	15.9	C	S					
8700928	16.2	16.5	17.1	17.7	14.1	C	C	C	D	D	D	11.4	M	D	D	D	13.9				
8700942	11.3	11.7	10.5	U	M	C	11.1	9.4	D	D	D	11.4	M	D	D	D					
8700948	17.9	18.0	18.1	C	C	20.7	19.9	C	17.5	17.6	18.1	13.4	S								
8700958	NOT PREGNANT																				
8700960	17.1	18.6	C	18.5	C	16.4	C	17.2	C	16.6	17.3	16.8	15.2								
8700964	11.4	13.2	D	13.6	12.1	M	M	6.3	D	D	9.8	13.5	M								
MEAN	14.55																				
S.D.	3.53																				
N	17																				

PUP STATUS CODES: S-STILLBORN U-UNCERTAIN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012F1

APPENDIX K-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP BODY WEIGHTS

LOW DOSE	GRP 2	1.3 PPT	PUP WEIGHTS																		
			LACTATION DAY 14																		
FEMALE#	MEAN		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700808	23.7	23.3	C	21.4	C	24.9	C	21.8	C	24.1	C	23.5	24.5	26.0	C	C	S				
8700828	ALL PUPS	DIED BY DAY 21pp																			
8700844	27.9	23.2	D	29.8																	
8700854	36.3	M	C	34.0	C	39.6	M	24.0	32.5	D	M	26.5	D								
8700864	40.7	38.0	41.6	41.1	41.9			37.2	36.6	36.6	C	34.4	C	C	35.9	C	C				
8700866	34.4	23.8	37.6	C	36.1	36.3	D	36.4	M	35.4	34.9	C	C	C							
8700886	38.2	41.1	37.6	C	C	40.9	38.5	C	36.7	39.3	C	35.9	35.3	S							
8700892	35.0	38.9	35.0	37.2	32.3	D	36.0	31.3	S												
8700900	ALL PUPS	DIED BY DAY 21pp																			
8700902	23.6	25.0	D		D	D	D	D	22.1	D	D	D	Z	D	D	D	S				
8700904	29.7	29.1	28.6	34.2	D	30.2	C	19.9	34.4	31.5	33.6	29.1	C	D	S						
8700908	30.6	C	32.0	31.0	33.1	C	29.8	31.8	C	29.1	30.4	C	C	D							
8700914	30.1	30.0	30.2	C	C	C	C	29.4	31.1	C	8.5	D									
8700926	27.5	33.7	D	34.8	M	C	C	29.4	31.1	C	C	C	C	34.0	32.7	C	S				
8700928	32.2	31.1	31.9	34.8	30.0	C	C	32.1	30.6	C	D	C	34.0	32.7	C	S					
8700942	29.3	29.8	26.2	U	M	29.4	26.2	D	D	D	D	30.9	M	D	D	D					
8700948	34.5	34.6	34.5	C	C	38.5	39.2	C	34.1	34.5	34.5	32.9	28.0	S							
8700958	NOT PREGNANT																				
8700960	32.5	33.2	C	35.2	C	31.4	C	32.9	C	31.3	33.8	32.6	29.7								
8700964	35.0	32.3	D	36.8	35.0	M	M	M	D	D	D	D	35.8	M							
MEAN	31.82																				
S.D.	4.73																				
N	17																				

PUP STATUS CODES: S-STILLBORN U-UNCERTAIN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012F1

APPENDIX K-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANTIDINE
F1 GENERATION
PUP BODY WEIGHTS

LOW DOSE GRP 2		1.3 PPT		PUP BODY WEIGHTS																	
FEWALE#	MEAN	1	PUP#	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700808	39.0	37.5	C	34.8	C	42.5	C	37.0	C	40.6	38.3	39.8	41.9	C	C	S					
8700828	ALL PUPS	DIED BY DAY	21pp																		
8700844	41.5	38.4	D	43.4	45.4	M	36.0	46.8	D	H	38.8	D									
8700854	56.7	M	C	54.4	C	59.9	58.5	57.4	55.7	C	53.5	C	C	57.5	C	C					
8700864	62.2	60.4	63.4	61.5	63.3																
8700866	53.8	Z	58.6	C	50.8	52.8	D	55.0	M	51.2	54.5	C	C								
8700886	53.6	52.3	52.6	C	59.6	56.3	C	53.3	53.3	C	51.9	49.8	S								
8700892	51.2	56.0	50.8	55.5	45.6	D	52.6	46.6	S												
8700900	ALL PUPS	DIED BY DAY	21pp																		
8700902	44.3	44.3	D	D	D	D	D	D	44.2	D	D	D	D	D	D	D	S				
8700904	50.2	51.3	48.7	56.3	D	50.5	C	C	D	41.2	M	53.2	M	S							
8700908	46.8	C	47.3	46.6	46.9	C	D	49.4	46.9	48.1	42.3										
8700914	38.3	38.8	38.6	C	C	38.4	39.3	C	37.3	38.6	C	C	C	D	36.9	C	S				
8700926	49.8	51.3	D	53.6	M	C	C	C	46.7	47.7	C	M	D								
8700928	51.2	51.6	49.6	53.5	49.0	C	C	C	51.0	50.6	C	C	51.5	52.5	C	S					
8700942	45.5	46.3	42.2	U	M	45.7	44.3	D	D	D	45.3	M	D	D	D	D	49.4				
8700948	51.0	51.2	53.9	C	C	56.4	55.7	C	47.8	52.3	49.7	41.4	S								
8700958	NOT PREGNANT																				
8700960	47.9	48.8	C	49.1	C	49.7	C	49.8	C	46.6	48.3	47.9	42.7								
8700964	51.5	47.8	D	53.0	51.2	M	M	M	M	D	D	D	53.9	M							

MEAN 49.08
S.D. 6.18
N 17

PUP STATUS CODES: S-STILLBORN U-UNCERTAIN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012F1

APPENDIX K-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP BODY WEIGHTS

MID DOSE				GRP 3				4 PPT				PUP BODY WEIGHTS																	LACTATION DAY					0
FEMALE#		MEAN		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19												
8700804	6.1	6.0	6.4	5.5	6.2	6.4	6.5	5.8	6.2	6.0	5.7	6.3	6.0	5.7	6.5																			
8700806	DID NOT BREED																																	
8700812	5.2	5.2	6.0	4.9	5.9	5.0	5.4	4.4	5.1	5.1	S	S	S	S	S																			
8700818	DID NOT BREED																																	
8700826	6.3	6.5	6.9	5.6	6.7	6.3	6.8	6.9	5.7	6.5	5.5	6.0	5.8	6.4	6.3	7.0	6.3																	
8700836	6.2	6.2	6.5	6.4	6.7	5.5	6.4	6.6	6.1	5.8	5.9	5.5	6.1	6.3																				
8700840	6.2	5.8	6.2	6.0	6.9	6.4	6.2	6.2	6.1	5.8	6.0	6.3																						
8700846	6.9	7.5	7.1	7.5	6.8	7.3	7.9	6.9	5.9	7.0	6.9	6.4	6.7	6.1	7.0	6.9																		
8700850	NOT PREGNANT																																	
8700860	NOT PREGNANT																																	
8700870	DID NOT BREED																																	
8700882	7.1	7.2	7.0	7.4	7.1	7.5	7.2	6.9	7.1	6.9	7.4	6.9																						
8700888	NOT PREGNANT																																	
8700890	6.8	6.9	7.1	6.7	7.4	6.6	6.8	6.9	6.3	7.2	6.5	6.5	6.9																					
8700906	5.6	5.6	5.8	5.8	5.9	6.2	6.2	5.1	5.5	5.8	5.3	5.2	5.0	5.8	5.9																			
8700910	6.5	7.0	6.2	6.6	6.2	6.6	6.3	6.8	6.8	6.5	6.3	6.3	6.3	6.2																				
8700918	7.6	8.0	8.0	8.0	7.4	7.4	7.4	7.3																										
8700920	6.1	6.9	6.5	6.8	5.9	6.2	6.4	6.7	6.6	5.1	5.6	5.6	6.5	6.3	6.4	3.8																		
8700930	6.4	7.0	6.9	6.0	6.4	6.6	6.7	5.7	5.9	6.0	6.5	6.1	6.6	6.4	6.3																			
8700944	6.9	7.5	6.9	7.2	7.0	7.4	7.5	6.5	6.8	6.5	6.8	6.6	6.6	6.8	6.3	4.4	6.1																	
8700966	6.1	7.1	6.0	6.1	6.4	5.6	6.8	6.9	7.0	6.6	5.9	5.3	5.9	5.5	6.6	6.9	6.8	6.2	6.5	S														
8700968	6.7	7.5	7.1	7.1	6.1	7.2	6.8	6.9	7.6	5.3	6.4	6.7	6.5	6.5	6.6	6.9	6.8																	
8700974	NOT PREGNANT																																	

MEAN 6.42
S.D. 0.60
N 16

PUP STATUS CODES: S-STILLBORN

87012F1

APPENDIX K-2 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 PUP BODY WEIGHTS

MID DOSE GRP 3 4 PPT				PPT 2001 LACTATION																		
FEMALE#	MEAN	PUP#		LACTATION DAY 4																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
8700804	9.9	10.0																				
8700806	DID NOT BREED	10.3	9.3	10.1	10.0	10.1	10.4	10.1	8.4	9.7	11.2	9.8	8.2	11.4								
8700812	9.6	8.8																				
8700818	DID NOT BREED	9.5	D	10.4	M	D	M	M	D	S	S	S	S									
8700826	9.4	8.9																				
8700836	9.0	9.1																				
8700840	6.1	4.5																				
8700846	10.1	11.7																				
8700850	NOT PREGNANT																					
8700860	NOT PREGNANT																					
8700870	DID NOT BREED																					
8700882	10.3	9.9																				
8700888	NOT PREGNANT	10.3	10.5	10.4	10.8	10.9	10.3	10.3	10.2	10.1	10.1											
8700890	8.6	9.0																				
8700906	10.2	10.6																				
8700910	8.6	8.5																				
8700918	14.3	14.3																				
8700920	8.6	9.5																				
8700930	7.0	8.2																				
8700944	10.0	10.5																				
8700966	7.7	8.3																				
8700968	9.7	10.2																				
8700974	NOT PREGNANT	9.7	8.9	8.6	10.9	11.2	8.6	10.7	7.2	8.8	10.5	9.4	9.9	8.5	10.8	10.7	9.3	9.0				
																		S				

MEAN 9.31
 S.D. 1.79
 N 16

PUP STATUS CODES: S-STILLBORN D-DIED M-MISSING

87012F1
 APPENDIX K-2 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 PUP BODY WEIGHTS

MID DOSE GRP 3 4 PPT			PUP BODY WEIGHTS																LACTATION DAY 7				
FEMALE#	MEAN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
8700804	16.7	17.3	18.5	C	17.0	19.5	C	18.0	18.2	11.0	C	C	C	C	14.0	C							
8700806	DID NOT BREED																						
8700812	15.0	13.5	15.6	D	15.9	M	D	M	M	D	S	S	S	S	S	S							
8700818	DID NOT BREED																						
8700826	13.6	9.7	17.5	C	C	10.4	17.2	C	C	13.0	11.4	13.6	C	C	C	16.2	C						
8700836	14.6	12.4	14.9	C	C	14.1	17.7	C	15.4	13.0	15.6	14.1	C	C									
8700840	7.5	C	5.0	8.6	7.2	10.4	C	D	8.1	5.7	C	7.7											
8700846	15.4	18.7	17.4	15.6	15.2	C	C	C	7.7	16.6	15.5	C	C	C	16.7	C							
8700850	NOT PREGNANT																						
8700860	NOT PREGNANT																						
8700870	DID NOT BREED																						
8700882	15.5	15.4	15.2	15.7	15.1	C	C	15.1	16.0	C	15.8	15.4											
8700888	NOT PREGNANT																						
8700890	13.1	14.2	8.6	C	D	14.0	15.4	10.7	C	C	14.6	14.5	C										
8700906	17.5	17.5	C	17.8	18.4	18.9	C	D	15.9	D	M	D	15.2	18.7	17.6								
8700910	15.3	14.9	C	15.8	C	15.1	C	15.7	C	15.5	14.7	C	15.6	15.2									
8700918	21.6	22.2	21.9	21.5	21.1	20.8	22.0	21.7															
8700920	11.8	12.3	D	C	C	8.8	16.9	C	D	11.8	D	9.9	C	6.8	16.0	D							
8700930	10.7	10.4	14.0	C	C	13.7	12.8	C	13.0	7.8	5.8	8.2	C	D	C								
8700944	16.1	17.0	15.5	C	C	16.6	16.8	C	15.9	15.2	16.0	15.9	C	C									
8700966	9.0	10.3	C	8.0	C	D	12.2	C	10.8	C	9.1	5.1	8.9	7.5	C	D	C						
8700968	17.7	18.0	16.8	C	C	18.4	18.6	C	18.1	C	C	17.6	C	16.2	C	18.1	C	C	C	S			
8700974	NOT PREGNANT																						

MEAN 14.45
 S.D. 3.49
 N 16

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED M-MISSING

87012F1

APPENDIX K-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP BODY WEIGHTS

MID DOSE	GRP	3	4	PPT	FEMALE#	MEAN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
87D0804		37.1	36.0		37.5																				
87D0806	DID NOT BREED																								
87D0812	28.8	29.2			26.5																				
87D0818	DID NOT BREED																								
87D0826	31.2	D			37.7																				
87D0836	36.7	D			37.3																				
87D0840	21.0	C			M																				
87D0846	35.1	37.6			35.9																				
87D0850	NOT PREGNANT																								
87D0860	NOT PREGNANT																								
87D0870	DID NOT BREED																								
87D0882	29.6	31.9			28.1																				
87D0888	NOT PREGNANT																								
87D0890	37.5	36.7			D																				
87D0906	33.1	33.1			C																				
87D0910	29.9	29.1			C																				
87D0918	38.0	38.6			39.5																				
87D0920	35.9	D			D																				
87D0930	40.1	D			41.4																				
87D0944	31.0	31.7			31.1																				
87D0966	17.8	D			C																				
87D0968	35.7	36.3			34.1																				
87D0974	NOT PREGNANT																								

MEAN 32.40
S.D. 6.12
N 16

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012F1

APPENDIX K-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP BODY WEIGHTS

MID DOSE				GRP	3	4	PPT	TOP BODY WEIGHTS																			LACTATION DAY 21				
FEMALE#	MEAN	1	2	PUP#	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19										
8700804	57.5	56.1	59.8	C	57.5	64.6	C	53.7	61.8	M	C	C	C	C	49.2	C															
8700806	DID NOT BREED																														
8700812	48.5	50.0	45.8	D	49.8	M	D	M	M	M	D	S	S	S	S	S															
8700818	DID NOT BREED																														
8700826	51.1	D	59.6	C	C	48.0	60.4	C	C	C	46.6	42.4	48.7	C	C	C	51.7	C													
8700836	57.9	D	60.5	C	C	56.1	62.5	C	57.4	Z	56.3	54.4	C	C	C																
8700840	39.7	C	M	D	D	39.7	C	D	M	D	C	C	M	C	C																
8700846	54.3	58.3	55.4	55.6	51.4	C	C	C	C	M	53.4	53.6	C	C	C	52.5	C														
8700850	NOT PREGNANT																														
8700860	NOT PREGNANT																														
8700870	DID NOT BREED																														
8700882	45.9	48.1	45.6	44.4	44.8	C	C	C	45.8	45.6	C	46.3	46.2																		
8700888	NOT PREGNANT																														
8700890	59.9	60.2	D	C	D	60.9	61.1	D	D	C	C	57.1	60.1	C																	
8700906	51.2	52.2	C	52.7	56.0	51.9	C	C	D	49.6	D	M	D	49.4	51.8	46.3															
8700910	42.5	41.7	C	41.3	C	42.6	C	C	45.0	C	45.9	38.7	C	42.2	42.3																
8700918	58.7	61.3	60.6	60.1	56.8	55.4	59.2	57.4	57.4	C	54.2	D	M	C	C																
8700920	60.7	D	D	C	C	D	64.0	C	C	D	54.2	D	M	C	C	M	64.0	D													
8700930	58.8	D	59.1	C	C	59.3	59.3	D	C	57.9	Z	D	D	C	C	D	C														
8700944	47.7	50.1	45.2	C	C	50.8	49.7	C	C	48.2	46.1	45.7	46.0	C	C	C															
8700966	27.3	D	C	D	C	D	27.3	C	C	D	C	M	D	D	D	C	D	C													
8700968	52.3	52.3	48.2	C	C	53.9	53.9	C	C	53.3	C	C	53.7	C	47.7	C	55.1	C	C	C	C	S									
8700974	NOT PREGNANT																														

MEAN 50.87
S.D. 8.95
N 16

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED Z-CANNIBALIZED M-MISSING

87012F1

 APPENDIX X-2 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION

PUP BODY WEIGHTS

HIGH DOSE GRP 4 12.7 PPT										POP BODY WEIGHTS										LACTATION DAY 0				
FEMALE#	MEAN	PUP#		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
		1	2																					
87D00816	6.2	6.0	6.3	6.9	6.4	6.5	6.2	6.4	5.5	5.2	6.5	6.5	5.5	6.2	6.4									
87D00820	7.2	7.6	6.4	7.2	7.6																			
87D00824	6.4	6.6	6.6	6.6	5.6	6.5	7.1	6.8	6.3	6.3	6.1	5.8												
87D00834	6.6	6.7	6.9	6.4	6.5	6.9	6.4	6.4	6.3															
87D00852	5.4	4.7	6.0	6.5	5.7	5.0	4.9	5.7	5.6	5.0	5.8	5.1	4.9	5.7	5.2	5.4	S							
87D00856	6.3	5.5	6.6	6.4	6.2	6.4	6.7	6.8	6.9	6.0	5.7	6.2												
87D00868	7.2	7.6	6.8																					
87D00874	6.3	6.6	6.6	6.4	6.5	6.0	6.4	6.5	6.0	6.2	6.1	5.8	6.5	6.2	6.1	S								
87D00884	6.7	6.7	6.4	6.7	7.3	7.1	7.0	6.9	7.8	6.3	6.3	6.1	6.3	6.6										
87D00894	5.6	6.1	5.5	5.9	4.6	6.0	5.4	5.3	5.8	5.7	5.8	5.2												
87D00896	5.5	5.8	6.2	6.1	5.6	5.8	5.5	5.5	5.5	5.3	3.9	S												
87D00898	6.5	6.8	6.2	7.1	6.5	6.7	6.7	6.7	5.8	6.4	6.5													
87D00912	NOT PREGNANT																							
87D00924	ALL PUPS DIED BY DAY 21PP																							
87D00932	5.6	5.5	5.6	5.8	5.6	5.8	5.8	5.7	5.3	5.3	5.3	5.4												
87D00934	6.8	7.0	7.5	7.5	6.8	6.3	6.2	7.5	6.4	6.6	6.2	6.6	6.8	6.5										
87D00954	PREGNANT, NO PUPS DELIVERED																							
87D00962	5.8	5.4	5.9	5.3	6.1	6.0	6.5	6.3	6.1	6.0	5.7	5.8	6.2	5.4	4.3	6.0								
87D00976	6.8	6.4	7.3	6.8	7.2	6.9	6.8	6.8	7.0	6.7	6.7	6.4	6.2											

 MEAN. 6.30
 S.D. 0.58
 N 16

PUP STATUS CODES: S-STILLBORN

87012F1

APPENDIX K-2 CONT.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
PUP BODY WEIGHTS

HIGH DOSE GRP 4 12.7 PPT					PUP BODY WEIGHTS																
FEMALE#	MEAN	PUP#		LACTATION DAY 4																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
8700816	10.1	8.2	10.5	11.1	8.1	8.2	10.8	11.3	10.0	9.4	11.1	10.7	9.8	11.1	11.2						
8700820	10.1	10.2	0	10.0	10.2																
8700824	9.7	10.2	10.5	10.5	6.0	10.5	10.9	10.2	9.8	10.2	9.1	9.1									
8700834	12.6	12.4	13.3	12.2	12.4	13.2	12.9	12.8	11.9												
8700852	5.6	4.9	D	6.9	D	H	D	6.4	D	5.5	D	5.2	D	0	4.8	5.8	S				
8700856	10.9	9.6	11.2	11.4	10.1	11.6	11.0	11.6	11.7	10.8	10.0	10.6									
8700868	15.3	15.8	14.8																		
8700874	9.7	10.6	9.9	9.9	10.3	9.6	9.6	9.8	9.2	9.5	9.7	9.0	9.3	10.1	9.1	S					
8700884	11.3	10.9	11.4	11.1	12.0	12.3	11.6	11.9	12.0	10.7	10.3	10.7	11.3	11.0							
8700894	8.1	9.9	8.3	8.3	4.4	9.6	8.1	5.1	9.3	8.0	9.5	D									
8700896	ALL PUPS DIED BY DAY 21PP																				
8700898	9.8	10.6	8.4	10.7	10.0	10.1	10.2	10.0	8.7	9.7	9.7										
8700912	NOT PREGNANT																				
8700924	ALL PUPS DIED BY DAY 21PP																				
8700932	ALL PUPS DIED BY DAY 21PP																				
8700934	10.1	10.7	10.7	11.2	10.3	9.7	9.4	11.2	9.9	9.9	8.8	9.7	10.5	9.4							
8700954	PREGNANT, NO PUPS DELIVERED																				
8700962	4.7	D	4.4	D	4.4	4.9	D	4.9	4.8	4.7	D	4.4	4.9	4.7	0	4.8					
8700976	9.8	8.5	8.5	10.9	10.9	9.5	10.6	10.6	10.9	9.9	9.6	8.7	9.4								

MEAN. 9.85
S.D. 2.61
N 14

PUP STATUS CODES: S-STILLBORN D-DIED M-MISSING

87012F1

APPENDIX K-2 CONT.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 - PUP BODY WEIGHTS

HIGH DOSE GRP 4 12.7 PPT										LACTATION DAY 7											
FEMALE#	MEAN	1	2	PUP#	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700816	15.1	9.2	17.7	C			9.4	17.6	C	16.4	15.4	C	C	16.3	18.5	C					
8700820	15.7	15.9	D	15.4																	
8700824	15.2	15.8	15.3	C	9.9	16.1	16.5	16.2	15.9	15.5	C	C									
8700834	18.2	17.7	18.8	18.0	18.5	18.6	18.1	18.5	17.2												
8700852	9.7	7.0	D	12.4	D	M	D	11.4	D	9.1	D	7.9	D	D	D	D	10.2	S			
8700856	16.0	15.1	17.0	16.6	15.2	C	16.3	C		16.2	15.1	16.1									
8700868	24.5	25.3	23.8																		
8700874	16.3	17.8	16.3	C	16.4	15.6	C	16.7	16.0	15.6	C	C	C	16.3	C	S					
8700884	17.4	16.6	C	17.4	C	19.0	C	18.5	C	16.9	16.4	C	C	17.6	16.5						
8700894	14.3	16.9	13.1	11.3	D	16.2	13.5	C	C	13.4	15.7	D									
8700896	ALL PUPS DIED BY DAY 21PP																				
8700898	16.1	16.6	14.1	17.7	16.9	17.1	16.8	17.1	12.2	C	C										
8700912	NOT PREGNANT																				
8700924	ALL PUPS DIED BY DAY 21PP																				
8700932	ALL PUPS DIED BY DAY 21PP																				
8700934	16.4	17.8	18.3	C	C	16.6	16.3	C	15.9	16.3	14.3	15.4	C	C							
8700954	PREGNANT, NO PUPS DELIVERED																				
8700962	ALL PUPS DIED BY DAY 21PP																				
8700976	13.2	C	D	17.2	10.7	10.0	15.5	C	17.9	C	C	C	9.2	11.6							

MEAN 15.99
 S.D. 3.33
 N 13

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED M-MISSING

87012F1

APPENDIX K-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

PUP BODY WEIGHTS

FEMALE#	MEAN	HIGH DOSE GRP 4 12.7 PPT		LACTATION DAY 14																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8700816	31.5	D	34.8	C	C	14.0	35.2	C	33.4	33.4	C	C	32.8	36.6	C					
8700820	31.5	31.3	D	31.9	31.2															
8700824	29.0	30.8	C	19.7	30.9	29.8	30.8	29.8	29.9	C	C									
8700834	35.9	36.1	36.7	35.8	36.4	36.0	35.0	36.5	34.7											
8700852	26.2	22.1	D	31.4	D	H	D	29.3	D	24.3	D	22.6	D	D	D	27.2	S			
8700856	32.2	30.9	32.5	33.1	29.8	C	33.8	C	C	33.0	32.2	32.2								
8700868	48.8	49.4	48.2																	
8700874	34.8	36.5	34.5	C	39.5	34.2	C	33.9	32.4	33.5	C	C	C	33.9	C	S				
8700884	31.5	29.8	C	31.7	C	32.4	C	33.4	C	30.0	30.3	C	32.9	31.1						
8700894	30.4	35.1	27.4	D	33.4	27.6	C	C	C	30.8	33.4	D								
8700896	ALL PUPS DIED BY DAY 21PP																			
8700898	34.3	13.0	D	40.3	38.0	37.8	38.2	38.4	D	C	C									
8700912	NOT PREGNANT																			
8700924	ALL PUPS DIED BY DAY 21PP																			
8700932	ALL PUPS DIED BY DAY 21PP																			
8700934	33.3	35.1	35.6	C	C	33.9	33.6	C	32.2	33.2	30.7	31.8	C	C						
8700954	PREGNANT, NO PUPS DELIVERED																			
8700962	ALL PUPS DIED BY DAY 21PP																			
8700976	33.6	7.0	D	44.0	D	H	39.1	C	44.2	C	C	D	H							
MEAN	33.29																			
S.D.	5.32																			
N	13																			

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED M-MISSING

87012F1

APPENDIX K-2 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 PUP BODY WEIGHTS

HIGH DOSE GRP 4 12.7 PPT																				
FEMALE#		MEAN		PUP#		LACTATION DAY 21														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
8700816	55.3	D	56.5	C	50.3	C	D	57.1	C	50.5	54.1	C	C	54.6	59.1	C				
8700820	50.6	50.6	D	50.3	51.0															
8700824	44.8	48.4	48.7	C	31.8	47.6	44.0	44.8	46.8	46.2	C	C								
8700834	52.0	53.4	53.7	51.4	52.9	52.6	50.1	51.7	49.8											
8700852	44.2	39.4	D	52.5	D	H	D	46.1	D	42.1	D	40.3	D	D	44.7	S				
8700856	48.5	45.1	50.5	49.8	44.1	C	51.4	C	49.8	47.3	49.9									
8700868	72.8	74.9	70.6																	
8700874	51.1	56.3	51.0	C	51.0	52.5	C	49.3	48.3	50.6	C	C	C	49.8	C	S				
8700884	47.2	45.0	C	46.4	C	48.1	C	51.5	C	46.1	45.2	C	48.5	46.7						
8700894	43.5	50.4	39.1	37.7	D	46.6	40.2	C	C	43.9	46.4	D								
8700896	ALL PUPS DIED BY DAY 21PP																			
8700898	61.9	D	64.7	63.1	59.1	63.5	59.2	D	C	C										
8700912	NOT PREGNANT																			
8700924	ALL PUPS DIED BY DAY 21PP																			
8700932	ALL PUPS DIED BY DAY 21PP																			
8700934	45.7	47.5	48.8	C	C	46.1	46.3	C	44.1	46.2	42.6	43.8	C	C						
8700954	PREGNANT, NO PUPS DELIVERED																			
8700962	ALL PUPS DIED BY DAY 21PP																			
8700976	67.3	C	D	68.3	D	H	65.8	C	67.8	C	C	D	H							
MEAN	52.67																			
S.D.	9.27																			
N	13																			

PUP STATUS CODES: S-STILLBORN D-DIED C-CULLED M-MISSING

87012P

APPENDIX L-1
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
AVERAGE PUP BODY WEIGHT / LITTER (GRAMS)

CONTROL GRP 1 0 PPT		DAY 0		DAY 4		DAY 4		DAY 7		DAY 14		DAY 21						
FEMALE#		MALE	FEMALE BOTH	MALE	FEMALE BOTH	MALE	FEMALE BOTH	MALE	FEMALE BOTH	MALE	FEMALE BOTH	MALE	FEMALE BOTH					
8700413	NP	7.2	6.5	10.2	10.1	10.1	10.1	10.2	10.1	16.6	16.0	16.3	31.2	30.8	31.0	43.5	42.3	42.9
8700421		8.3	7.8	14.9	14.3	14.5	14.5	14.9	14.3	22.1	21.3	21.6	37.7	35.9	36.5	62.9	59.7	60.8
8700425		6.8	6.0	11.7	10.6	11.4	11.4	11.7	10.6	18.6	17.4	18.3	34.9	35.6	35.1	59.2	54.7	58.1
8700430		8.8	7.9	12.3	11.8	12.1	12.1	12.3	11.8	16.3	16.2	16.3	30.8	33.2	31.6	49.8	58.4	52.7
8700431		8.0	8.0	10.7	10.8	10.8	10.8	10.7	10.8	18.2	18.3	18.3	26.9	27.8	27.3	43.8	48.7	46.2
8700437																		
8700440	NP	7.7	7.0	10.5	9.2	9.4	9.2	10.5	9.2	17.2	14.8	15.4	33.6	30.6	31.3	48.7	44.2	45.3
8700442		7.4	6.8	10.6	10.2	10.4	10.2	10.5	10.2	15.5	15.2	15.4	30.8	30.1	30.4	44.4	43.2	43.8
8700445		7.7	7.4	11.4	11.2	11.2	11.2	11.4	11.0	17.6	16.4	16.7	32.0	30.6	30.9	52.3	49.5	50.1
8700446		7.1	6.8	11.3	10.9	11.2	10.8	11.2	10.8	17.8	17.5	17.6	32.3	32.5	32.4	52.9	52.6	52.7
8700447																		
8700460	DNB	7.3	7.4	11.8	11.2	11.6	11.2	11.9	11.2	17.8	16.6	17.3	30.8	29.6	30.3	50.9	49.3	50.3
8700461	DNB																	
8700465																		
8700470	NP	7.0	6.8	9.6	9.4	9.5	9.4	9.5	9.1	15.2	15.1	15.1	28.2	27.1	27.6	49.3	45.7	47.5
8700472		6.3	6.0	8.8	9.0	8.9	9.1	9.1	9.1	15.1	14.7	14.9	26.8	27.5	27.1	48.0	46.5	47.3
8700479		6.7	6.8	9.7	9.7	9.7	9.8	9.9	9.8	15.3	15.9	15.6	29.2	26.4	27.6	49.8	52.4	51.1
8700484		7.7	7.4	7.5	6.4	6.5	6.5	6.4	6.5	11.3	10.3	10.6	33.5	28.8	31.1	50.3	48.7	49.6
8700496		6.8	6.4	6.6	5.5	6.6	6.6	6.5	6.6	16.6	13.9	15.3	40.8	37.8	39.3	62.8	57.6	60.2
8700498		8.2	7.3	7.7	14.0	12.2	13.1	14.0	12.2	21.6	19.0	20.3	33.5	33.2	33.3	48.5	47.6	48.1
8700507		7.1	6.8	6.9	10.3	9.9	10.1	10.3	9.8	17.1	16.4	16.8	35.7	36.6	36.1	57.9	60.9	59.2
8700509		7.5	6.9	7.2	11.8	11.2	11.5	12.1	11.7	19.9	18.6	19.3	33.1	32.0	32.5	52.3	50.0	51.1
8700512		7.1	6.7	6.9	11.8	11.4	11.6	11.5	11.1	20.0	19.1	19.5	34.9	30.4	32.3	55.3	48.3	51.3
8700520		6.6	5.9	6.1	10.6	9.4	9.8	10.6	9.2	16.3	13.8	14.7	32.8	29.1	30.6	51.9	46.6	48.0
8700523		7.0	6.2	6.6	10.7	9.6	10.3	11.0	9.2	18.4	15.5	16.7						
8700525	NP																	
8700535	NP																	
8700541		7.3	6.6	10.4	9.6	10.1	9.6	10.3	9.6	15.6	15.7	15.6	28.2	31.5	29.8	51.6	47.9	49.5
8700542		6.6	6.4	6.5	10.7	10.7	10.7	10.7	10.7	17.7	17.6	17.7	33.1	33.1	33.1	51.3	50.0	50.7
8700545		7.4	7.6	7.5	14.8	15.2	15.1	14.8	15.2	23.0	22.9	22.9	43.0	41.7	42.1	62.0	59.5	60.3
8700546																		
8700548	NP	7.4	7.0	7.2	10.3	10.0	10.1	10.4	9.8	14.3	13.7	14.0	22.4	22.2	22.3	30.7	31.1	30.9
8700550		6.5	6.0	6.1	9.7	9.7	9.7	9.7	9.7	15.6	15.6	15.6	31.7	31.5	31.6	47.9	49.6	49.1
8700551																		
MEAN		7.28	6.87	7.06	10.94	10.48	10.71	10.96	10.44	17.33	16.43	16.83	32.30	31.41	31.74	50.85	49.60	50.08
S.D.		0.60	0.61	0.59	1.79	1.71	1.74	1.77	1.73	2.56	2.54	2.53	4.35	4.08	4.07	6.89	6.46	6.43
N		26	26	26	26	26	26	26	26	26	26	26	25	25	25	26	26	26

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

NP=NOT PREGNANT DNB=DID NOT BREED

87012P

APPENDIX L-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
AVERAGE PUP BODY WEIGHT / LITTER (GRAMS)

LOW DOSE GRP 2 1.3 PPT																				
FEMALE#	DAY 0			DAY 4			DAY 7			DAY 14			DAY 21							
	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH					
8700412	NP	7.2	6.6	6.8	8.8	8.7	8.7	9.0	8.5	8.8	13.2	12.7	12.9	24.0	22.4	23.2	37.3	36.1	36.7	
8700424	NP																			
8700433	NP																			
8700438	APD																			
8700441	NP																			
8700448		7.9	7.3	7.5	11.7	11.2	11.4	11.8	11.1	11.4	19.2	18.2	18.7	34.2	31.8	33.0	53.5	50.7	52.1	
8700449		6.5	6.4	6.5	8.7	8.7	8.7	8.9	8.7	8.8	15.0	14.8	14.9	31.5	31.0	31.2	51.0	45.8	48.4	
8700452		8.0	7.2	7.6	13.0	12.1	12.6	13.0	12.1	12.6	19.5	18.4	19.0	36.4	35.4	35.9	57.8	56.6	57.2	
8700454	NP																			
8700457	APD		5.7	5.7																
8700462	APD		6.6	6.6																
8700463		6.9	6.3	6.6	12.0	10.7	11.4	12.1	10.7	11.4	17.8	16.1	16.9	30.8	28.8	29.8	46.4	44.4	45.4	
8700464		6.4	6.2	6.3	8.7	8.4	8.6	8.9	8.5	8.7	15.7	13.6	14.7	31.3	30.4	30.9	49.0	47.6	48.4	
8700468	NP																			
8700473		7.9	7.1	7.4	12.5	11.3	11.8	12.5	11.1	11.8	19.4	17.5	18.5	33.6	31.4	32.5	54.0	50.1	52.0	
8700475		7.8	7.7	7.8	11.2	11.2	11.2	11.2	11.2	11.2	16.6	17.0	16.8				50.0	50.7	50.2	
8700476		7.1	6.7	6.9	10.2	10.4	10.3	10.7	10.4	10.5	17.1	17.6	17.3	38.6	36.3	37.3	55.7	51.1	53.1	
8700487	DNB																			
8700488		7.3	7.0	7.1	10.8	10.5	10.6	10.8	10.6	10.7	17.3	16.9	17.1	31.0	31.2	31.1	39.8	40.2	40.0	
8700491	NP																			
8700492	DNB																			
8700495		7.5	7.1	7.3	8.9	8.6	8.8	8.9	8.6	8.8	12.2	11.9	12.0	34.1	26.8	28.7	57.0	58.5	58.0	
8700499		7.0	6.7	6.9	10.0	9.7	9.9	9.8	9.7	9.8	16.5	16.8	16.6	32.0	32.7	32.4	53.7	54.5	54.1	
8700501		7.5	6.2	7.0	14.1	12.0	13.4	14.1	12.0	13.4	20.5	18.1	19.7	37.8	34.5	36.7	60.0	53.1	57.7	
8700502		6.9	6.5	6.7	10.4	9.5	10.0	10.5	9.8	10.1	17.5	15.6	16.5	36.5	36.0	36.3	58.2	56.6	57.5	
8700518		6.0	5.7	5.8	7.9	7.6	7.7	7.8	7.5	7.7	13.0	12.0	12.5	29.4	28.9	29.1	43.6	42.1	42.9	
8700519	APD																			
8700522		7.2	7.3	7.2	10.3	10.2	10.2	10.2	10.2	10.2	16.6	17.2	16.9	29.6	30.5	30.0	44.4	46.9	45.6	
8700529	APD		6.7	6.0	6.3															
8700531		6.8	6.2	6.6	9.9	8.9	9.6	10.0	8.9	9.6	15.9	14.1	15.2	31.9	29.6	31.0	49.0	45.9	47.8	
8700533		5.9	5.3	5.7	6.9	6.9	6.9	6.9	6.9	6.9	11.2	11.2	11.2	25.9	25.9	25.9	38.8	38.8	38.8	
8700534		6.5	5.9	6.1	8.3	6.7	7.3	8.5	7.6	8.0	13.3	12.5	12.9	25.0	23.7	24.3	39.4	36.7	38.0	
8700536		7.1	6.6	6.8	11.1	10.2	10.6	11.1	10.3	10.7	16.6	15.9	16.2	31.6	31.0	31.3	49.4	49.7	49.6	
8700544	APD		7.7	6.0	6.5	8.9	8.9	8.9	8.9	8.9	11.9	11.9	11.9	12.5	12.5	12.5				
8700549		7.3	6.7	7.1	10.4	9.7	10.1	10.4	9.6	10.0	17.7	16.9	17.3	35.8	35.0	35.4	55.7	52.9	54.3	
MEAN		7.09	6.51	6.76	10.20	9.82	9.94	10.27	9.85	9.99	16.07	15.69	15.71	31.10	30.91	30.40	49.70	48.50	48.94	
S.D.		0.57	0.59	0.57	1.78	1.44	1.66	1.76	1.35	1.62	2.64	2.18	2.51	5.79	3.81	5.60	6.98	6.35	6.74	
N		23	25	25	22	20	22	22	20	22	22	20	22	21	19	21	21	20	21	

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

NP=NOT PREGNANT DNB=DID NOT BREED APD=ALL PUPS DIED BY DAY 21pp

87012P
APPENDIX L-1 CONT.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
AVERAGE PUP BODY WEIGHT / LITTER (GRAMS)

MID DOSE		GRP		4 PPT																			
				DAY 0				DAY 4				DAY 7				DAY 14				DAY 21			
FEMALE#		MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	
87D00415	NP	7.2	6.9	7.0	10.8	10.2	10.3	10.8	10.4	10.6	17.9	17.2	17.5	34.5	33.8	34.1	55.1	52.7	53.6				
87D00417		6.5	6.0	6.2	8.0	7.3	7.6	8.2	7.4														
87D00420		5.5	6.0	5.8																			
87D00422	APD	6.7	6.6	6.6	9.7	9.6	9.6	9.7	8.9	9.3	12.9	11.8	12.4	41.9	32.9	38.9	68.6	54.9	64.0				
87D00427		6.5	6.2	6.4	8.1	8.3	8.2	7.9	8.5	8.2	12.9	14.2	13.5	24.3	25.8	25.0	44.0	44.7	44.4				
87D00432		7.2	7.0	7.1	11.4	11.6	11.5	11.0	11.6	11.3	18.1	18.5	18.3	32.3	32.9	32.6	50.6	50.3	50.4				
87D00435	NP																						
87D00436		8.3	7.7	8.1	13.0	12.8	12.9	13.0	12.8	12.9	21.7	21.3	21.6	34.7	33.9	34.4	56.8	55.3	56.3				
87D00443	NP																						
87D00444	NP																						
87D00453	NP																						
87D00455	NP	6.2	6.3	6.2	10.8	11.3	11.0	10.8	11.3	11.0	16.4	16.9	16.6	29.5	30.2	29.9	44.4	46.0	45.2				
87D00456		7.4	7.9	7.7	11.9	13.2	12.5	11.9	13.2	12.5	18.8	20.4	19.6	36.7	38.0	37.4	58.2	58.6	58.4				
87D00459		7.4	7.1	7.2	11.5	11.0	11.1	11.5	11.2	11.3	18.0	17.5	17.7	33.8	33.5	33.6	52.6	50.4	51.2				
87D00466		6.9	6.6	6.8	10.5	10.0	10.4	10.5	10.1	10.3	17.5	16.7	17.1	31.3	30.9	31.1	48.9	47.9	48.4				
87D00469		7.8	6.7	7.0	12.1	10.1	10.7	12.1	10.2	10.9	18.2	15.6	16.6	32.6	28.7	30.2	47.0	42.0	43.9				
87D00471		5.8	5.9	5.9	7.4	7.4	7.4	7.4	7.4	7.4	13.8	13.6	13.7	30.9	29.8	30.3	48.1	45.4	46.8				
87D00478		7.4	6.9	7.0	12.9	12.4	12.6	12.9	12.4	12.6	19.7	19.0	19.2	33.2	32.1	32.5	49.8	48.9	49.2				
87D00480	NP																						
87D00486	NP																						
87D00489	NP	7.3	6.3	6.9	10.6	9.4	10.1	10.5	9.8	10.1	17.7	16.1	16.9	33.5	31.5	32.5	54.6	51.0	52.8				
87D00490																							
87D00493	NP	7.4	7.3	7.4	10.1	9.6	9.8	10.1	9.3	9.7	16.7	14.0	15.4	32.5	31.1	31.9	51.9	49.2	50.7				
87D00494		8.2	7.8	8.0	13.3	13.4	13.3	13.3	13.4	13.3	19.3	18.9	19.1	37.7	36.5	36.9	51.9	51.4	51.6				
87D00508		6.5	6.2	6.3	9.1	8.9	9.0	9.1	9.3	9.2	15.2	15.3	15.3	27.6	27.8	27.7	42.9	42.8	42.9				
87D00511		6.3	5.9	6.0	8.5	7.8	8.0	8.8	7.7	8.2	14.8	12.9	13.9	31.5	28.9	30.2	48.2	46.9	47.5				
87D00515		6.0	5.5	5.6																			
87D00516	APD																						
87D00524	NP	6.9	6.4	6.7	9.9	9.4	9.6	9.9	9.3	9.6	16.2	15.2	15.7	31.8	30.1	30.9	49.0	43.8	46.4				
87D00526		6.4	6.0	6.3	10.4	9.8	10.2	10.3	10.4	10.4	18.5	18.0	18.2	34.8	33.4	34.1	54.8	50.8	52.8				
87D00527		7.5	6.8	7.0	10.2	9.8	9.9	10.2	9.5	9.8	15.7	14.9	15.2	37.9	33.3	34.8	55.5	48.9	51.1				
87D00537		6.4	6.3	6.4	8.8	8.9	8.9	8.7	8.9	8.8	13.0	14.5	13.9	31.8	32.3	32.1	49.1	49.8	49.5				
87D00543		7.1	7.1	7.1	10.7	11.0	10.8	10.8	11.0	10.9	15.9	16.0	15.9	31.6	31.0	31.3	50.9	49.7	50.3				
87D00547																							
MEAN		6.91	6.62	6.74	10.42	10.14	10.23	10.40	10.16	10.26	16.65	16.15	16.38	32.60	31.56	32.09	51.16	48.92	50.06				
S.D.		0.71	0.64	0.64	1.63	1.73	1.65	1.61	1.74	1.64	2.36	2.45	2.33	4.04	2.84	3.36	5.68	4.18	5.01				
N		25	25	25	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23				

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

NP=NOT PREGNANT APD=ALL PUPS DIED BY DAY 21PP

87012P

APPENDIX L-1 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
PARENTAL GENERATION
AVERAGE PUP BODY WEIGHT / LITTER (GRAMS)

FEMALE#	DAY 0				DAY 4				DAY 7				DAY 14				DAY 21	
	MALE	FEMALE	BOTH		MALE	FEMALE	BOTH		MALE	FEMALE	BOTH		MALE	FEMALE	BOTH		MALE	FEMALE
8700414	7.1	6.8	6.9	10.0	9.6	9.8	10.5	9.6	10.0	15.3	14.1	14.7	29.4	27.3	28.4	44.2	41.2	42.7
8700416	NP																	
8700418	DNB																	
8700419	NP																	
8700423	NP																	
8700426	6.4	5.9	6.1	9.0	8.8	8.9	9.1	8.8	9.0	14.7	14.0	14.3	28.6	26.8	27.7	43.7	40.3	42.0
8700429	7.0	6.5	6.8	10.3	9.6	10.1	10.3	9.6	9.9	16.1	15.2	15.7	28.4	26.8	27.6	46.6	45.2	45.9
8700434	8.0	7.6	7.8	12.6	12.3	12.4	12.6	12.3	12.4	18.3	20.2	19.2	39.7	37.7	38.3	65.6	61.2	62.7
8700439	NOPU																	
8700450	6.2	5.7	5.9	9.0	8.2	8.6	9.2	8.0	8.6	14.8	12.8	13.8	27.3	25.5	26.4	43.1	40.0	41.5
8700451	NP																	
8700458	NP																	
8700467	7.0	6.7	6.8	10.0	10.1	10.0	10.0	10.0	10.0	16.1	15.9	16.0	29.2	28.4	28.7	46.7	46.4	46.5
8700477	6.6	6.1	6.4	9.7	8.9	9.4	9.6	8.7	9.2	15.8	14.8	15.3				50.3	46.9	48.6
8700481	NP																	
8700482	NP																	
8700485	NP																	
8700497	NP																	
8700500	7.0	7.0	7.0	13.2	12.8	13.0	13.2	12.8	13.0	18.9	18.2	18.5	34.1	33.0	33.5	55.5	51.8	53.4
8700503	6.6	6.4	6.5	9.6	8.8	9.1	9.8	8.8	9.3	15.6	14.9	15.2	28.4	28.0	28.2	41.4	39.8	40.6
8700504	6.5	6.3	6.4	10.0	9.8	9.9	10.1	9.6	9.8	15.1	14.6	14.8	28.6	28.3	28.4	41.6	39.9	40.7
8700505	6.0	5.7	5.9	10.1	9.5	9.9	10.1	9.5	9.8	10.1	9.2	9.7	33.9	34.1	34.0	52.1	50.7	51.5
8700506	6.5	5.9	6.2	10.2	9.5	9.8	10.2	9.5	9.8	17.5	16.1	16.8	32.5	30.3	31.4	46.5	43.7	45.1
8700510	6.8	6.1	6.5	8.2	8.3	8.2	8.2	8.3	8.2	12.7	13.0	12.8	28.4	26.6	27.9	45.3	41.4	44.3
8700513	7.6	6.8	7.1	11.9	10.9	11.3	11.9	10.6	11.3	17.9	16.2	17.0	33.6	31.3	32.5	49.5	46.2	47.8
8700514	NP																	
8700517	7.2	6.7	6.9	11.0	10.4	10.7	11.1	10.3	10.7	17.9	16.7	17.3	33.6	31.0	32.3	51.0	47.9	49.5
8700521	NOPU																	
8700528	6.7	6.6	6.7	6.8	7.0	6.9	6.9	7.0	6.9	8.7	10.3	9.5	30.8	34.5	33.2	51.4	54.0	53.1
8700530	NP																	
8700532	NP																	
8700538	6.2	5.7	6.0	7.7	7.4	7.6	7.4	7.5	7.5	12.8	13.3	13.1	35.0	34.0	34.4	52.8	53.5	53.2
8700539	7.5	7.6	7.5	11.2	11.5	11.4	11.2	11.4	11.3	17.3	17.2	17.2	32.5	32.6	32.5	50.6	50.8	50.7
8700540	7.3	6.9	7.1	10.8	10.4	10.6	10.7	10.5	10.6	17.3	17.1	17.2	32.4	31.5	31.9	45.1	42.2	43.7
MEAN	6.85	6.46	6.66	10.07	9.67	9.87	10.10	9.62	9.86	15.40	14.91	15.15	31.46	30.42	30.96	48.56	46.46	47.54
S.D.	0.53	0.58	0.53	1.57	1.51	1.53	1.59	1.50	1.52	2.72	2.61	2.61	3.24	3.41	3.19	5.77	5.95	5.66
N	19	19	19	19	19	19	19	19	19	19	19	19	18	18	18	19	19	19

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

NP=NOT PREGNANT DNB=DID NOT BREED NOPU=PREGNANT, NO PUPS DELIVERED

87012F1

APPENDIX L-2
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION

AVERAGE PUP BODY WEIGHT / LITTER (GRAMS)

CONTROL		GRP 1	0-PPT	AVERAGE POP. BODY WEIGHT / LITTER (GRAMS)																	
				DAY 0			DAY 4			DAY 7			DAY 14			DAY 21					
FEMALE#				MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH			
8700802	NP																				
8700810	DNB																				
8700814				6.9	6.3	6.4	10.1	9.8	9.9	10.1	9.9	10.0	15.6	15.7	15.7	31.5	32.3	31.9	48.0	49.3	48.7
8700822				7.3	7.2	7.3	9.8	9.8	9.8	9.8	9.8	9.8	12.0	11.6	11.7	17.7	33.5	25.6		44.9	44.9
8700830				6.7	6.7	6.7	8.7	9.0	8.8	8.3	9.0	8.6	14.0	15.8	14.9	29.1	32.7	30.9	42.5	45.7	44.1
8700832	NP																				
8700838	NP																				
8700842	NP																				
8700848				7.3	6.7	6.9	9.7	9.5	9.5	9.7	9.6	9.7	17.3	17.3	17.3	32.5	33.0	32.8	50.9	48.6	49.7
8700858				6.2	6.2	6.2	9.1	10.2	9.7	9.4	10.2	9.8	14.4	16.6	15.5	35.9	32.1	33.8	57.6	58.4	58.0
8700862				6.5	6.4	6.4	11.4	11.7	11.5	11.4	11.7	11.5	17.7	18.3	18.0	34.4	34.1	34.2	57.4	53.3	55.3
8700872				6.7	6.6	6.6	12.6	12.6	12.6	12.6	12.6	12.6	19.7	19.2	19.4	36.0	35.9	35.9	59.3	59.0	59.1
8700876				7.1	6.7	6.9	9.0	8.0	8.4	9.0	8.0	8.4	14.8	13.3	13.9	34.1	34.4	34.3	51.4	50.1	50.8
8700878				6.6	6.4	6.5	11.2	11.0	11.1	11.4	11.0	11.2	18.4	17.1	17.7	35.0	33.0	34.0	55.8	51.3	53.6
8700880	APD			6.6	6.0	6.2	5.0	4.1	4.6	5.0	4.1	4.6	5.7		5.7						
8700916	NP																				
8700922				6.9	7.1	7.0	12.4	12.3	12.4	12.4	12.3	12.4	19.6	19.1	19.3	37.4	37.4	37.4	52.2	50.2	51.1
8700936	NP																				
8700938	NP																				
8700940				6.6	5.9	6.4	7.1	6.8	7.0	7.1	6.8	7.0	11.8	11.7	11.7	25.7	25.4	25.6	38.0	36.8	37.5
8700950	DNB																				
8700952				6.9	6.4	6.7	11.6	8.8	10.3	12.4	8.6	10.5	19.2	14.0	16.6	40.8	32.1	35.8	61.8	48.7	54.3
8700956				6.8	5.9	6.2	10.0	8.5	9.1	10.1	8.4	9.2	16.3	12.1	14.2	32.6	29.7	31.3	50.9	44.9	48.3
8700970				6.7	6.6	6.6	7.2	7.8	7.6	7.2	7.9	7.5	11.7	11.9	11.8		31.6	31.6		59.8	59.8
8700972				6.4	6.1	6.2	10.1	10.4	10.3	10.1	10.3	10.2	16.2	16.7	16.5	31.0	31.7	31.3	48.1	48.8	48.4
8700978	APD			6.5	5.9	6.2															
MEAN				6.75	6.40	6.56	9.69	9.39	9.54	9.75	9.38	9.56	15.26	15.35	14.99	32.40	32.60	32.42	51.84	49.98	50.91
S.D.				0.30	0.41	0.32	2.03	2.15	2.04	2.11	2.15	2.06	3.71	2.74	3.51	5.61	2.71	3.37	6.74	6.04	6.07
N				17	17	17	16	16	16	16	16	16	16	15	16	14	15	15	13	15	15

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

NP=NOT PREGNANT DNB=DID NOT BREED APD=ALL PUPS DIED BY DAY 21PP

87012F1

APPENDIX 1-2 cont.
REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
F1 GENERATION
AVERAGE PUP BODY WEIGHT / LITTER (GRAMS)

LOW DOSE		GRP 2	1.3 PPT		DAY 4			DAY 7			DAY 14			DAY 21		
FEMALE#	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	
8700808	6.0	5.9	6.0	8.4	8.2	8.3	8.4	8.1	8.2	11.6	11.9	11.8	22.9	24.5	23.7	
8700828	APD															
8700844	6.5	5.7	6.1	6.7	6.4	6.6	6.7	6.4	6.6	10.8	11.5	11.0	27.0	29.5	27.9	
8700854	6.3	5.8	5.9	9.6	8.8	9.1	10.1	10.1	10.1	16.1	17.3	16.8	36.9	35.9	36.3	
8700864	7.6	7.1	7.4	13.2	13.1	13.1	13.2	13.1	13.1	20.6	20.6	20.6	39.8	41.5	40.7	
8700866	7.0	6.4	6.7	9.6	9.0	9.2	9.7	8.9	9.3	16.7	14.9	15.8	33.5	35.6	34.4	
8700886	7.1	6.7	6.9	11.0	10.3	10.7	11.3	10.3	10.8	19.8	17.8	18.8	39.5	36.8	38.2	
8700892	7.5	6.8	7.1	11.1	9.7	10.3	11.1	9.7	10.3	17.4	14.3	15.6	37.0	33.2	35.1	
8700900	APD															
8700902	6.5	6.1	6.3	6.7	5.8	6.1	6.7	5.8	6.1	8.2	7.6	7.9	25.0	22.1	23.6	
8700904	6.4	6.2	6.3	8.2	7.9	8.1	8.3	7.9	8.1	13.5	11.4	12.4	30.5	27.9	29.7	
8700908	6.5	6.0	6.4	9.8	9.6	9.7	9.8	9.6	9.8	16.0	15.5	15.8	30.1	31.4	30.6	
8700914	6.8	6.6	6.7	9.4	8.6	9.1	9.5	8.4	9.1	17.0	16.6	16.9	30.2	29.8	30.1	
8700926	6.8	6.1	6.5	7.0	6.1	6.6	7.2	6.2	6.7	10.4	9.8	10.1	34.3	23.0	27.5	
8700928	6.7	6.4	6.6	9.5	9.2	9.4	9.9	9.6	9.8	16.4	16.0	16.2	32.0	32.4	32.2	
8700942	4.8	4.6	4.7	6.1	6.9	6.4	6.1	6.9	6.4	10.7	12.6	11.3	27.9	32.0	29.3	
8700948	7.5	6.6	7.2	11.4	10.1	10.9	11.4	10.1	10.8	19.2	16.7	17.9	36.7	32.4	34.5	
8700958	XP															
8700960	7.3	7.0	7.2	10.9	10.2	10.6	11.1	10.2	10.7	17.7	16.5	17.1	33.2	31.9	32.5	
8700964	7.0	6.3	6.5	8.2	6.5	6.9	8.2	6.5	6.9	13.4	10.4	11.4	34.5	35.4	35.0	
MEAN	6.67	6.21	6.44	9.22	8.61	8.89	9.34	8.68	8.97	15.02	14.20	14.55	32.41	31.48	31.82	
S.D.	0.68	0.58	0.63	1.95	1.89	1.96	1.98	1.93	1.98	3.67	3.42	3.53	4.90	5.08	4.73	
N	18	18	18	17	17	17	17	17	17	17	17	17	17	17	17	

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

NP=NOT PREGNANT APD=ALL PUPS DIED BY DAY 21PP

87012F1
 APPENDIX L-2 CONT.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 AVERAGE PUP BODY WEIGHT / LITTER (GRAMS)

MID DOSE		GRP 3		4		PPT		AVERAGE POP BODY WEIGHT / LITTER (GRAMS)											
FEMALE#		DAY 0		DAY 4		DAY 4		DAY 7		DAY 7		DAY 14		DAY 14		DAY 21			
		MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH			
8700804	DNB	6.1	6.1	6.1	9.9	9.9	9.9	10.1	9.3	9.7	18.1	15.3	16.7	38.0	35.8	37.1	59.5	54.9	57.5
8700806																			
8700812	DNB	5.4	5.2	5.2	9.2	10.4	9.6	9.2	10.4	9.6	14.6	15.9	15.0	27.9	30.8	28.8	47.9	49.8	48.5
8700818																			
8700826		6.5	6.2	6.3	9.5	9.2	9.4	10.4	8.8	9.6	13.7	13.6	13.6	34.4	28.8	31.2	56.0	47.3	51.1
8700836		6.3	6.0	6.2	9.4	8.5	9.0	8.9	8.4	8.7	14.8	14.5	14.6	37.3	36.0	36.7	59.7	56.0	57.9
8700840		6.3	6.1	6.2	6.2	6.0	6.1	6.7	6.4	6.5	7.8	7.2	7.5	21.0		21.0	39.7		39.7
8700846		7.4	6.6	6.9	10.7	9.7	10.1	10.5	10.0	10.2	16.7	14.1	15.4	35.6	34.4	35.1	55.2	53.2	54.3
8700850	NP																		
8700860	NP																		
8700870	DNB	7.2	7.0	7.1	10.5	10.2	10.3	10.3	10.2	10.2	15.4	15.6	15.5	29.6	29.6	29.6	45.7	46.0	45.9
8700882																			
8700888	NP																		
8700890		6.9	6.7	6.8	8.4	8.8	8.6	8.4	8.9	8.7	12.3	13.8	13.1	36.7	38.1	37.5	60.6	59.4	59.9
8700906		5.8	5.5	5.6	10.0	10.4	10.2	11.1	10.4	10.7	18.1	16.9	17.5	34.3	31.9	33.1	53.2	49.3	51.2
8700910		6.6	6.3	6.5	8.5	8.8	8.6	8.7	8.7	8.7	15.4	15.3	15.3	30.2	29.5	29.9	42.7	42.3	42.5
8700918		8.0	7.4	7.6	14.5	14.1	14.3	14.5	14.1	14.3	21.9	21.4	21.6	39.3	37.0	38.0	60.7	57.2	58.7
8700920		6.5	5.6	6.1	9.0	8.1	8.6	9.1	8.1	8.6	12.7	11.1	11.8	37.9	35.0	35.9	64.0	59.1	60.7
8700930		6.5	6.3	6.4	7.5	6.4	7.0	8.2	6.5	7.3	12.7	8.7	10.7	41.0	38.2	40.1	59.2	57.9	58.8
8700944		7.1	6.7	6.9	10.2	9.9	10.0	10.4	10.0	10.2	16.5	15.8	16.1	31.8	30.3	31.0	49.0	46.5	47.7
8700966		6.5	5.6	6.1	7.9	7.3	7.7	8.2	6.9	7.5	10.3	7.7	9.0	17.8		17.8	27.3		27.3
8700968																			
8700974	NP	7.0	6.5	6.7	9.7	9.6	9.7	10.5	10.5	10.5	18.0	17.5	17.7	35.8	35.6	35.7	52.1	52.5	52.3
MEAN		6.63	6.23	6.42	9.45	9.20	9.31	9.69	9.22	9.44	14.92	14.01	14.45	33.02	33.65	32.40	52.02	52.24	50.87
S.D.		0.64	0.60	0.60	1.79	1.89	1.79	1.73	1.90	1.78	3.41	3.75	3.49	6.46	3.37	6.12	9.67	5.46	8.95
N		16	16	16	16	16	16	16	16	16	16	16	16	16	14	16	16	14	16

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

NP=NOT PREGNANT DNB=DID NOT BREED

87012F1

APPENDIX L-2 cont.
 REPRODUCTIVE AND FERTILITY TOXICITY TEST IN RATS, NITROGUANIDINE
 F1 GENERATION
 AVERAGE PUP BODY WEIGHT / LITTER (GRAMS)

HIGH DOSE GRP 4 12.7 PPT																	
FEMALE#	DAY 0		DAY 4		DAY 7		DAY 14		DAY 21								
	MALE	FEMALE BOTH	MALE	FEMALE BOTH	MALE	FEMALE BOTH	MALE	FEMALE BOTH	MALE	FEMALE BOTH							
8700816	6.4	6.0	6.2	10.5	10.1	9.8	13.5	16.6	15.1	28.0	34.1	31.5	56.8	54.6	55.3		
8700820	7.0	7.4	7.2	10.1	10.2	10.1	15.9	15.6	15.7	31.3	31.6	31.5	50.6	50.7	50.6		
8700824	6.4	6.4	6.4	9.9	9.7	9.8	14.3	16.0	15.2	28.0	30.1	29.0	44.1	45.5	44.8		
8700834	6.7	6.4	6.6	12.5	12.7	12.6	18.3	17.9	18.2	36.2	35.4	35.9	52.8	50.5	52.0		
8700852	5.6	5.3	5.4	5.5	5.9	5.6	9.7	9.6	9.7	26.8	25.9	26.2	46.0	43.3	44.2		
8700856	6.4	6.0	6.3	11.0	10.7	10.6	16.0	15.8	16.0	32.0	32.5	32.2	48.2	49.0	48.5		
8700868		7.2	7.2	15.3	15.3	15.3	24.5	24.5	24.5	36.2	33.4	34.8	52.7	49.5	51.1		
8700874	6.4	6.2	6.3	10.1	10.1	9.9	16.5	16.2	16.3	31.8	31.1	31.5	47.8	46.6	47.2		
8700884	7.0	6.3	6.7	11.7	11.6	11.2	17.9	16.9	17.4	29.2	31.3	30.4	42.4	44.3	43.5		
8700894	5.5	5.6	5.6	7.7	8.3	8.1	13.8	14.7	14.3								
8700896	5.9	5.1	5.5	9.9	9.9	9.8	16.3	15.8	16.1	30.4	38.1	34.3	63.9	60.6	61.9		
8700898	6.7	6.5	6.5														
8700912																	
8700924																	
8700932	5.7	5.3	5.6														
8700934	7.0	6.5	6.8	10.5	10.1	10.1	17.3	15.5	16.4	34.5	32.0	33.3	47.2	44.2	45.7		
8700954																	
8700962	5.9	5.6	5.8	4.7	4.7	4.7	14.3	10.4	13.2	33.6							
8700976	6.9	6.3	6.8	10.0	10.2	9.9											
MEAN	6.36	6.13	6.30	9.51	9.43	9.76	15.31	15.81	15.99	31.50	33.68	33.29	51.64	50.95	52.67		
S.D.	0.52	0.64	0.58	2.21	2.17	2.57	2.38	3.55	3.33	3.19	5.62	5.32	7.67	8.45	9.27		
N	15	16	16	13	13	14	12	13	13	12	12	13	12	12	13		

DAY 4 COLUMNS = PRE- AND POSTCULLING RESPECTIVELY

NP=NOT PREGNANT NPU=PREGNANT, NO PUPS DELIVERED APD=ALL PUPS DIED BY DAY 21PP

Appendix M-1

EXAMINATION OF PUPS AT DELIVERY
F₁ GENERATION

Control Animals

Maternal ID	Pup ID	Finding
87D0421	M1-M4	Normal
	F1-F9	Normal
	DF1,2	Normal
87D0425	M1,2	Normal
	F1-F4	Normal
87D0430	M1-M3	Normal
	F1	Normal
	DF1	Normal
87D0431	M1,2	Normal
	F1	Normal
87D0437	M1-M4	Normal
	F1-F5, F7	Normal
	F6	Tip of tail dark red
87D0442	M1,2	Normal
	F1-F12	Normal
87D0445	M1-M8	Normal
	F1-F4	Normal
87D0446	M1,2	Normal
	F1-F9	Normal
87D0447	M1-M8	Normal
	F1-F5	Normal
87D0461	M1-M6	Normal
	F1-F3	Normal

Appendix M-1 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₁ GENERATION

Control Animals

Maternal ID	Pup ID	Finding
87D0472	M1-M6 F1-F8 DM1	Normal Normal Normal
87D0479	M1-M7 F1-F5 DM1, 2	Normal Normal Normal
87D0484	M1-M7 M8 F1-F6	Normal Underneath chin purple; Cool; Inactive Normal
87D0496	M1-M3 F1-F5	Normal Normal
87D0498	M1-M9	Normal
87D0507	M1-M3 F1-F3	Normal Normal
87D0509	M1-M4 F1-F8	Normal Normal
87D0512	M1-M6 F1-F6	Normal Normal
87D0520	M1-M6 F1-F7	Normal Normal

Appendix M-1 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₁ GENERATION

Control Animals

Maternal ID	Pup ID	Finding
87D0523	M1-M3	Normal
	F1-F7	Normal
	DM1	Normal
	DF1	Normal
87D0525	M1-M8	Normal
	F1-F7	Normal
87D0542	M1-M7	Normal
	F1-F5	Normal
87D0545	M1-M7	Normal
	F4	Normal; Erroneously sexed and numbered as female, pup is male
	F1-F3, 5, 6	Normal
87D0546	M1	Normal
	F1, 2	Normal
87D0550	M1-M5	Normal
	F1-F6	Normal
	DM1, 2	Normal
87D0551	M1-M3	Normal
	F1	Umbilical cord wrapped around right front leg and girth; Leg swollen, marked; Leg discolored
	F2-F10	Normal
	DM1	Right hind limb talipes equinovarus

Appendix M-1 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₁ GENERATION

1.3 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0424	M1-M3,M5 M4 F1 F2-F7	Normal Top of left rear foot discolored Digits of right hind foot purple Normal
87D0448	M1-M5 F1-F8	Normal Normal
87D0449	M1-M7 F1-F10	Normal Normal
87D0452	M1-M3 F1-F3	Normal Normal
87D0457	F1 DM1-DM3 DM4	Normal Normal Abdomen bloated
87D0462	F1 DM1	Dehydrated Normal
87D0463	M1-M5 F1-F4	Normal Normal
87D0464	M1-M7 F1-F7	Normal Normal

Appendix M-1 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₁ GENERATION

1.3 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0473	M1-M4 F1-F6	Normal Normal
87D0475	M1-M5 F1, 2	Normal Normal
87D0476	M1-M6 F1-F7 DM1	Normal Normal Normal
87D0488	M1-M4 F1-F7 DM1	Normal Normal Normal
87D0495	M1-M5 F1-F4	Normal Normal
87D0499	M1-M10 F1-F5	Normal Normal
87D0501	M1, 2 F1	Normal Normal
87D0502	M1-M8 F1-F5	Normal Normal
87D0518	M1-M5 M6 F1-F10	Normal Red crusty material on right eyelid Normal
87D0522	M1-M5 F1-F8	Normal Normal

Appendix M-1 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₁ GENERATION

1.3 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0529	M1-M4 F1-F6	Normal Normal
87D0531	M1-M7 F1-F3 DF1	Normal Normal Normal
87D0533	M1-M7 F1-F4	Normal Normal
87D0534	M1-M6 F1-F9	Normal Normal
87D0536	M1-M4 F1-F5	Normal Normal
87D0544	M1 F1,2	Normal Normal
87D0549	M1-M8 F1-F6	Normal Normal

Appendix M-1 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₁ GENERATION

4.0 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0417	M1-M3 F1-F11	Normal Normal
87D0420	M1-M3, 5-7 M4 F1-F8	Normal Umbilicus tangled around left rear foot and tip of tail; Foot discolored; Foot swollen; Tip of tail purple Normal
87D0422	M1 F1, 2	Normal Normal
87D0427	M1-M4 F1-F6, 8-10 F7 DF1	Normal Normal Umbilicus wrapped around rear left leg; Foot swollen, slight Body blue
87D0432	M1-M10 F1-F6	Normal Normal
87D0435	M1-M6 F1-F5	Normal Normal
87D0443	M1 M2-M4 F1, 2	Right rear foot digits discolored Normal Normal
87D0456	M1-M6 F1-F4	Normal Normal
87D0459	M1, 2 F1, 2	Normal Normal

Appendix M-1 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₁ GENERATION

4.0 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0466	M1-M3	Normal
	F1-F8	Normal
	DF1	Normal
87D0469	M1-M10	Normal
	F1-F5	Normal
87D0471	M1-M3	Normal
	F1-F8	Normal
87D0478	M1	Inactive
	M2, M4, 5	Normal
	M3	Left eye blue, slight; Eye swollen
	F1-F9	Normal
87D0480	M1-M3	Normal
	F1-F6	Normal
	DM1	Normal
87D0490	M1-M7	Normal
	F1, 2, 4, 5	Normal
	F3	Right rear foot purple
87D0494	M1-M4	Normal
	F1-F7	Normal
87D0508	M1, 2	Normal
	F1-F3	Normal
87D0511	M1, 2, 4	Normal
	M3	Muzzle and forehead purple
	F1-F9	Normal

Appendix M-1 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₁ GENERATION

4.0 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0515	M1-M5 F1-F10	Normal Normal
87D0516	M1-M4 F1,2,4-11 F3	Normal Normal Fluid underneath skin, especially around the abdomen
87D0526	M1-M6 F1-F5	Normal Normal
87D0527	M1-M9 F1-F6	Normal Normal
87D0537	M1-M3 F1-F10	Normal Normal
87D0543	M1-M5, M7 F1,2,4-6 F3 M6	Normal Normal Muzzle purple Normal Erroneously sexed and numbered as male, pup is female
	DM1	Normal Normal
87D0547	M1-M5 F1-F4	Normal Normal

Appendix M-1 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₁ GENERATION

12.7 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0414	M1-M6	Normal
	F1-F8	Normal
	DF1,2	Normal
87D0426	M1-M5	Normal
	F1-F6	Normal
87D0429	M1-M8	Normal
	F1-F4	Normal
87D0434	M1,2	Normal
	F1,2	Normal
87D0450	M1-M7	Normal
	F1	Hind leg purple, slight
	F2-F7	Normal
87D0467	M1-M3	Normal
	F1-F9	Normal
	DF1	Normal
87D0477	M1-M9	Normal
	F1-F5	Normal
87D0500	M1-M3	Normal
	F1,F3,4	Normal
	F2	Body blue
87D0503	M1-M5	Normal
	F1-F9	Normal
87D0504	M1-M5	Normal
	F1-F6	Normal
	DF1	Normal

Appendix M-1 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₁ GENERATION

12.7 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0505	M1-M7	Normal
	F1-F4	Normal
	DM1,2	Normal
87D0506	M1-M6	Normal
	F1-F6	Normal
87D0510	M1-M4	Normal
	F1,2	Normal
87D0513	M1-M4	Normal
	F1-F6	Normal
	F6	Normal
87D0517	M1-M5	Normal
	F1-F7	Normal
87D0528	M1-M9	Normal
	F1-F4	Normal
87D0538	M1-M7	Normal
	F1-F5	Normal
87D0539	M1-M4	Normal
	F1-F5	Normal
87D0540	M1-M5	Normal
	F1-F6	Normal

Appendix M-2

EXAMINATION OF PUPS AT DELIVERY
F₂ GENERATION

Control Animals

Maternal ID	Pup ID	Findings
87D0814	M1-M4 F1-F10	Normal Normal
87D0822	M1-M3 F1-F3,5 F4	Normal Normal Left hind foot purple, slight
87D0830	M1-M7 F1-F6 DF1	Normal Normal Normal
87D0848	M1-M5 F1-F9	Normal Normal
87D0858	M1-M7 F1-F8	Normal Normal
87D0862	M1-M6 F1-F6 DM1	Normal Normal Normal
87D0872	M1-M3 F1-F4	Normal Normal
87D0876	M1-M4 F1-F5	Normal Normal
87D0878	M1-M6 F1-F7 DM1	Normal Normal Lower jaw short; Muzzle pointed; Skin loose

Appendix M-2 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₂ GENERATION

Control Animals

Maternal ID	Pup ID	Findings
87D0880	M1-M5 F1-F10	Normal Normal
87D0922	M1 M2-M4 F1-F4	Abdomen bloated; Body blue Normal Normal
87D0940	M1-M8 F1-F4	Normal Normal
87D0952	M1-M8 F1,2,4-6 F3	Normal Normal Left hind foot purple; Foot swollen, slight
87D0956	M1-M5 F1-F8	Normal Normal
87D0970	M1-M4 F1-F9 F10	Normal Normal Left side of muzzle purple
87D0972	M1-M4 F1-F8	Normal Normal
87D0978	M1-M7 F1-F5	Normal Normal

Appendix M-2 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₂ GENERATION

1.3 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0808	M1-M8 F1-F6	Normal Normal
87D0844	M1-M6 F1-F5	Normal Normal
87D0854	M1-M6 F1,2,4-9 F3	Normal Normal Left hind foot purple, slight
87D0864	M1,2 F1,2	Normal Normal
87D0866	M1-M6 F1-F6	Normal Normal
87D0886	M1 M2-M7 F1-F5	Top, left side of muzzle purple Normal Normal
87D0892	M1-M3 F1-F4 DF1	Normal Normal Normal
87D0900	M1-M3 F1-F4 DF1	Normal Normal Very small
87D0902	M1-M6 F1-F8 DM1	Normal Normal Normal

Appendix M-2 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F2 GENERATION

1.3 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0904	M1-M8 F1-F4 DM1	Normal Normal Normal
87D0908	M1-M7 F1-F3	Normal Normal
87D0914	M1-M7 F1-F7 DF1	Normal Normal Normal
87D0926	M1-M6 F1-F5	Normal Normal
87D0928	M1-M6 F1-F7 DM1	Normal Normal Normal
87D0942	M1-M9 F1-F6	Normal Normal
87D0948	M1-M7 F1-F4 DF1	Normal Normal Small
87D0960	M1-M8 F1-F4	Normal Normal
87D0964	M1-M3 F1-F9	Normal Normal

Appendix M-2 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₂ GENERATION

4.0 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0804	M1-M5 F1-F9	Normal Normal
87D0812	M1-M3 F1-F6 DM1-DM3 DF1	Normal Normal Normal Normal
87D0826	M1-M7 F1-F9	Normal Normal
87D0836	M1-M7 F1-F6	Normal Normal
87D0840	M1-M6 F1-F5	Normal Normal
87D0846	M1-M6 F1-F9	Normal Normal
87D0882	M1-M6 F1-F5	Normal Normal
87D0890	M1-M5 F1-F7	Normal Normal
87D0906	M1-M6 F1-F8	Normal Normal
87D0910	M1-M8 F1-F5	Normal Normal
87D0918	M1 M2, 3 F1-F4	Face purple, slight Normal Normal

Appendix M-2 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₂ GENERATION

4.0 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0920	M1-M8 F1-F6 F7	Normal Normal Tail kinked, slight
87D0930	M1-M7 F1-F7	Normal Normal
87D0944	M1-M7 F1-F6	Normal Normal
87D0966	M1-M9 F1-F7	Normal Normal
87D0968	M1-M7 F1-F11	Normal Normal

Appendix M-2 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₂ GENERATION

12.7 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0816	M1-M7 F1-F7	Normal Normal
87D0820	M1,2 F1,2	Normal Normal
87D0824	M1-M5 F1-F5 F6	Normal Normal Clotted blood under skin around umbilicus
87D0834	M1-M5 F1-F3	Normal Normal
87D0852	M1-M5 F1-F10 DF1	Normal Normal Normal
87D0856	M1-M8 F1-F3	Normal Normal
87D0868	F1 F2	Normal Face purple
87D0874	M1-M5 F1-F9 DM1	Normal Normal Normal
87D0884	M1-M8 F1-F5	Normal Normal

Appendix M-2 (Cont.)

EXAMINATION OF PUPS AT DELIVERY
F₂ GENERATION

12.7 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0894	M1-M4 F1-F7	Normal Normal
87D0896	M1-M5 F1-F5 DM1	Normal Normal Head large; Head flattened, slight
87D0898	M1-M4 F1-F6	Normal Normal
87D0924	DF1	Snout narrow
87D0932	M1-M7 F1-F4	Normal Normal
87D0934	M1-M7 F1-F6	Normal Normal
87D0962	M1-M8 F1-F7	Normal Normal
87D0976	M1-M10 F1,2	Normal Normal

Appendix N-1
VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
F₁ GENERATION
Control Animals

Maternal ID	Pup ID	Finding
87D0421	F1*	Normal
	F5	Renal pelvis dilated, slight
	F6	Renal pelvis dilated, slight
	F9	Renal pelvis dilated, moderate
	DF1,DF2	Normal
87D0430	DF1	Normal
87D0437	F3,F4,F7	Normal
87D0442	F1,F2,F6,F8,F12	Normal
87D0445	M2,M4,M6,M8	Normal
87D0446	F2,F6,F7	Normal
87D0447	M2,M4,M6,M8	Normal
	F3	Normal
87D0461	M1	Normal
87D0472	M5,M6	Normal
	F2,F4,F6,F8	Normal
	DM1	Normal
87D0479	M3,M4,M7,F3	Normal
	DM1,DM2	Normal
87D0484	M2,M4,M6,M8,F5	Normal
	F6	Oviduct not straight; Ectopic ovary
87D0496	F3*	Normal
87D0498	M1	Renal pelvis dilated, slight
	M5	Renal pelvis dilated, slight
	M6	Renal pelvis dilated, moderate
	M7,F5,F6	Normal
	M9	Renal pelvis dilated, moderate

*Pup found dead

Appendix N-1 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F₁ GENERATION
 Control Animals

Maternal ID	Pup ID	Finding
87D0509	F2	Renal pelvis dilated, slight
	F4	Renal pelvis dilated, moderate
	F6	Renal pelvis dilated, moderate
	F8	Renal pelvis dilated, slight
87D0512	M5, M6, F5, F6	Normal
	F2*	Normal
87D0520	M5, M6, F3, F4, F7	Normal
87D0523	F1, F5	Normal
	F2*	Normal
	DM1, DF1	Normal
87D0525	M4, M5, M8, F4, F5	Normal
	M7*	Normal
87D0542	M3, M4	Normal
	M7	Renal pelvis dilated, slight
	F3	Renal pelvis dilated, moderate
87D0545	M3, M4, M7, F5, F6	Normal
87D0550	M3	Renal pelvis dilated, moderate
	F5	Normal
	F6	Renal pelvis dilated, slight
	DM1	Lung surface pitted;
		Renal pelvis dilated, slight
	DM2	Lung surface pitted
87D0551	M2*, F2*, F6*	Normal
	DM1	Lung surface pitted;
		Renal pelvis dilated, marked

*Pup found dead

Appendix N-1 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F1 GENERATION
 1.3 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0424	M3, F4, F7	Normal
87D0448	M3, F2, F4, F6, F8	Normal
87D0449	M3, M4, M7 F2, F3, F5, F6, F8 F4	Normal Normal Renal pelvis dilated, slight
87D0457	DM1, DM2, DM3, DM4	Normal
87D0476	DM1	Normal
87D0463	M3	Normal
87D0464	M3, M4, M7 F6, F7	Normal Normal
87D0473	F5, F6	Normal
87D0476	M5, M6, F3, F4, F7 DM1	Normal Normal
87D0488	F3 F4, F7 DM1	Renal pelvis dilated, slight Normal Normal
87D0495	M1*, M3*, M4* M5	Normal Normal
87D0499	M2 M4 M3, M5, M6, M8, F3	Renal pelvis dilated, moderate Renal pelvis dilated, slight Normal
87D0502	M2, M4, M6, M8, F3	Normal

*Pup found dead.

Appendix N-1 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F₁ GENERATION
 1.3 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0518	M5	Renal pelvis dilated, moderate
	M6	Renal pelvis dilated, slight
	F2	Renal pelvis dilated, moderate
	F3	Renal pelvis dilated, marked
	F4	Renal pelvis dilated, moderate; Kidney underdeveloped cortex, medulla absent, cavity large; Ureter dilated
	F5	Renal pelvis dilated, moderate
	F6	Renal pelvis dilated, moderate
	F8	Normal
87D0522	M3, F2, F4, F6, F8	Normal
87D0529	M1*, M2*, M3*, M4*	Normal
	F4*	Brain 4th ventricle dilated
	F5*	Kidney surface pitted
87D0531	M1, M5	Normal
	DF1	Normal
87D0533	M2*, M4*, F1*	Normal
	F4*	Lung surface pitted
87D0534	M5, F3, F7, F8	Normal
	M6	Renal pelvis dilated, moderate
	F4	Renal pelvis dilated, slight
	F9	Renal pelvis dilated, slight
87D0536	F3	Normal
87D0544	M1*	Normal
	F2*	Lung surface pitted
87D0549	M2, M4, F5	Normal
	M6	Renal pelvis dilated, slight
	M8	Renal pelvis dilated, moderate
	F6	Renal pelvis dilated, moderate

*Pup found dead.

Appendix N-1 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F₁ GENERATION
 4.0 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0417	F2, F5, F7, F8 F10, F11	Normal Normal
87D0420	M3, M4, F2 F4, F6, F8 M6*	Normal Normal Lung surface pitted; Spleen small
87D0422	F1* F2*	Spleen small Oviduct not straight
87D0427	M1*, M3*, F1*, F9* F2 F3, F4, F5, F6 F8 F10* DF1	Normal Renal pelvis dilated, slight Normal Renal pelvis dilated, slight Spleen large Normal
87D0432	M2, M3, M4 M6, F5, F6 M5 M8	Normal Normal Renal pelvis dilated, slight Renal pelvis dilated, slight
87D0435	M5, M6, F3	Normal
87D0456	M5, M6	Normal
87D0466	F5, F7, F8 DF1	Normal Normal
87D0469	M2, M3, M4, M5 M6, M8, F3	Normal Normal
87D0471	F5, F7, F8	Normal

*Pup found dead.

Appendix N-1 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F1 GENERATION
 4.0 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0478	M1*,F9* F2,F4,F6,F8	Normal Normal
87D0480	F4* DM1	Normal Normal
87D0490	M3 M4 M7 F3	Normal Renal pelvis dilated, slight Renal pelvis dilated, moderate Renal pelvis dilated, moderate
87D494	F3,F7	Normal
87D0511	F1 F5,F6,F7,F9	Renal pelvis dilated, slight Normal
87D0515	M3,F2,F3,F4 F5,F6,F8	Normal Normal
87D0516	M1*,M2*,M3* M4* F1*,F2*,F4* F5*,F6*,F7* F8*,F9*,F10* F11*	Normal Renal pelvis dilated, marked Normal Normal Normal Renal pelvis dilated, slight
87D0526	M3,M6,F3	Normal
87D0527	M1 M5,F5 M6 M7 M9 F6	Renal pelvis dilated, slight Normal Renal pelvis dilated, moderate Renal pelvis dilated, moderate Renal pelvis dilated, slight Renal pelvis dilated, slight

*Pup found dead.

Appendix N-1 (Cont.)
VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
F1 GENERATION
4.0 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0537	F2	Renal pelvis dilated, slight
	F7	Renal pelvis dilated, moderate
	F8*	Normal
	F9	Normal
	F10	Renal pelvis dilated, moderate
87D0543	M2*, F2*	Normal
	M3, M4, F5	Normal
	M7	Renal pelvis dilated, slight
	F6	Renal pelvis dilated, slight
	DM1	Normal
87D0547	M3	Normal

*Pup found dead.

Appendix N-1 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F1 GENERATION
 12.7 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0414	M5, M6, F4, F6, F8 F2 DF1, DF2	Normal Oviduct not straight Normal
87D0426	M3, F5, F6	Normal
87D0429	M2, M4, M6, M8	Normal
87D0450	M3, M4, M7 F3, F4, F7	Normal Normal
87D0467	F2, F6, F8, F9 DF1	Normal Renal pelvis dilated, slight
87D0477	M1, M5, M6, M7 M9, F3	Normal Normal
87D0503	M3, F1, F5, F6 F7, F9	Normal Normal
87D0504	M3, F5, F6 DF1	Normal Normal
87D0505	M3 M4 M7 F2* DM1 DM2	Renal pelvis dilated, moderate Renal pelvis dilated, moderate Renal pelvis dilated, moderate Normal Normal Jaw short, blunt
87D0506	M5, M6, F5 F6	Normal Left atria positioned more ventral than normal; Renal pelvis dilated, slight
87D0510	M4*	Normal

*Pup found dead.

Appendix N-1 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F1 GENERATION
 12.7 Nitroguanidine Animals

Maternal ID	Pup ID	Finding
87D0513	F5 F6	Renal pelvis dilated, slight Renal pelvis dilated, moderate
87D0517	M3, F3, F4, F7	Normal
87D0528	M1 M2*, M3*, M4*, F4* M5 M6 M7 M9 F1*	Normal Normal Renal pelvis dilated, moderate Renal pelvis dilated, marked Renal pelvis dilated, moderate Renal pelvis dilated, slight Oviduct not straight
87D0538	M2*, M3*, F4* M5, M7, F3	Normal Normal
87D0539	F3	Renal pelvis dilated, slight
87D0540	M3, F5 F6	Normal Renal pelvis dilated, slight

*Pup found dead.

Appendix N-2
VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
F2 GENERATION
Control Animals

Maternal ID	Pup ID	Finding
87D0814	F2,F3,F4,F6,F8 F5	Normal Open spaces in olfactory bulbs; Brain lateral ventricles dilated slightly; Ureter dilated
87D0822	M1*	Small intestine adhered to abdominal wall
	M2*,M3*	Normal
	F1*,F3*,F4*	Normal
87D0830	M3	Renal pelvis dilated, moderate; Ureters dilated
	M4	Renal pelvis dilated, moderate; Ureters dilated
	M7	Normal
	F5	Renal pelvis dilated, slight
	F6	Renal pelvis dilated, slight; Ureter dilated
	DF1	Lung surface smooth; Renal pelvis dilated, slight
87D0848	M3,F1,F5 F6,F7,F9	Normal Normal
87D0858	M1*,F3*	Normal
	M3,M4,M7	Normal
	F2,F4,F6,F8	Normal
87D0862	M1*,F5*,F6*	Normal
	DM1*	Normal
87D0876	M1*,F3*	Normal
87D0878	M5,M6,F3,F4,F7 DM1	Normal Normal

*Pup found dead

Appendix N-2 (Cont.)
VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
F2 GENERATION
Control Animals

Maternal ID	Pup ID	Finding
87D0880	M2*	Kidneys underdeveloped, medulla absent, cavity enlarged
	M4*, F3*, F6*	Normal
	M5*	Renal pelvis dilated, marked
	F1*	Renal pelvis dilated, slight
	F5*	Renal pelvis dilated, slight
	F7*	Left atria small; Renal pelvis dilated, marked
	F9*	Right atria small
	F10*	Renal pelvis dilated, slight
87D0922	M1*	Normal
87D0940	F2*	Normal
87D0952	M6, M8, F3	Normal
	M7*	Brain lateral ventricle dilated, slight
	F5*	Normal
87D0956	M3, F3, F4, F8	Normal
	F5*	Normal
87D0970	M1*, M2*, M3*, M4*	Normal
	F6*, F8*	Normal
	F1, F3, F7, F9, F10	Normal
	F5	Ureter dilated; Kidney underdeveloped, medulla absent, enlarged cavity; Renal pelvis dilated, moderate
87D0972	F2, F4, F6, F8	Normal
87D0978	M3*	Renal pelvis dilated, marked
	M4*	Renal pelvis dilated, moderate
	M7*	Kidneys underdeveloped, medulla absent, cavity enlarged
	F1*, F2*, F3*	Normal
	F4*, F5*	Normal

*Pup found dead

Appendix N-2 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F2 GENERATION
 1.3 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0808	M2, M4, M6, M8 F5, F6	Normal Normal
87D0844	M2* F2* F5*	Renal pelvis dilated, moderate Renal pelvis dilated, moderate Renal pelvis dilated, moderate
87D0854	M2, M4, F3, F5 F6, F8, F9	Normal Normal
87D0866	M1*, M6* M3, F5, F6	Normal Normal
87D0886	M3, M4, M7, F3	Normal
87D0892	F2* DF1	Normal Normal
87D0900	M1*, F2*, F3* M2* M3* F1* DF1	Normal Kidneys underdeveloped, medulla absent, cavity enlarged Kidneys underdeveloped, medulla absent, cavity enlarged Renal pelvis dilated, slight Anophthalmia; Jaw short; Tissue adema; Left atria small; Heart ventricle septum absent
87D0902	M2* M3* M4* M5*, M6*, F1*, F3* F4*, F7*, F8* F6* DM1	Kidneys underdeveloped, medulla absent, cavity enlarged Renal pelvis dilated, moderate Renal pelvis dilated, slight Normal Normal Renal pelvis dilated, marked Normal

*Pup found dead

Appendix N-2 (Cont.)
VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
F₂ GENERATION
1.3 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0904	M4*	Normal
	M6, M7	Normal
	M8*	Kidney underdeveloped, medulla absent, cavity enlarged
	DM1	Renal pelvis dilated, moderate Normal
87D0908	M1, M5	Normal
	M6*	Normal
87D0914	M3, M4, M7, F3, F4	Normal
	F5*	Normal
	F7	Renal pelvis dilated, slight
	DF1	Lung surface smooth; Renal pelvis dilated, moderate
87D0926	M2*	Normal
	M5*	Renal pelvis dilated, marked; Ureter dilated
	M6	Renal pelvis dilated, moderate; Ureter dilated
	F3	Renal pelvis dilated, slight
	F5*	Renal pelvis dilated, slight; Oviduct not straight
87D0928	M5, M6, F3, F4, F7	Normal
	DM1	Normal
87D0942	M7*	Renal pelvis dilated, slight
	M8*	Renal pelvis dilated, marked
	M9*	Renal pelvis dilated, marked
	F3*	Renal pelvis dilated, moderate
	F4*	Renal pelvis dilated, marked
	F5*	Renal pelvis dilated, slight

*Pup found dead

Appendix N-2 (Cont.)
VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
F2 GENERATION
1.3 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0948	M3,M4,M7 DF1	Normal Kidneys underdeveloped, medulla absent, cavity enlarged
87D0960	M2,M4,M6,M8	Normal
87D0964	M2*,F7* F5 F6*	Normal Ovaries ectopic Renal pelvis dilated, slight

*Pup found dead

Appendix N-2 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F2 GENERATION
 4.0 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0804	M3,F1,F5 F6,F7,F9	Normal Normal
87D0812	M3*,F6* F3* DM1,DM2,DM3,DF1	Normal Brain lateral ventricles dilated, slight Normal
87D0826	M1* M3 M4 M7,F1,F9 F5 F6 F7	Renal pelvis dilated, slight Renal pelvis dilated, slight; Ureter dilated Renal pelvis dilated, slight Normal Renal pelvis dilated, moderate Ureter dilated Renal pelvis dilated, slight; Ureters dilated Renal pelvis dilated, slight; Ureters dilated
87D0836	M1* M3 M4,M7,F5,F6	Normal Renal pelvis dilated, slight; Ureter dilated Normal
87D0840	M1 M3*,F3* M4* M6 F1* F4	Renal pelvis dilated, marked Normal Bronchioles dilated, reducing lung area; Renal pelvis dilated, moderate Brain lateral ventricles dilated, slight; Renal pelvis dilated, slight
87D0846	M5,M6,F1,F5 F6,F7,F9	Normal Normal

*Pup found dead

Appendix N-2 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F2 GENERATION
 4.0 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0882	M5,M6,F3	Normal
87D0890	M2*	Lung surface pitted
	M3	Renal pelvis dilated, slight
	M4*	Brain lateral ventricles dilated, slight
	F2*	Normal
	F3	Normal
	F4	Ureter dilated
	F7	Oviduct not straight
87D0906	M2,M6	Normal
	F1*,F3*	Normal
	F5*	Oviduct not straight
87D0910	M2,M4,M6,M8,F3	Normal
87D0920	M1*,M5*,M8*	Normal
	M2*	Brain lateral ventricles dilated,slight
	M3,M4,M7	Normal
	F2*,F7*	Normal
	F4	Ovary ectopic
87D0930	M1*,M6*,F3*	Normal
	M3	Normal
	M4	Ureter dilated
	M7	Renal pelvis dilated, slight
	F4*,F6*,F7*	Normal
	F5	Renal pelvis dilated, slight; Ureter dilated
87D0944	M3,M4,M7,F5,F6	Normal

*Pup found dead

Appendix N-2 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F₂ GENERATION
 4.0 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0966	M1*	Renal pelvis dilated, moderate
	M2, M7	Normal
	M3*	Renal pelvis dilated, moderate
	M4	Renal pelvis dilated, slight
	M5*	Renal pelvis dilated, marked
	M8*	Brain lateral ventricles dilated, slight; Lung surface smooth; Renal pelvis dilated, slight
	M9	Renal pelvis dilated, slight
	F2*	Renal pelvis dilated, slight
	F3*	Renal pelvis dilated, slight
	F4*	Normal
	F5	Renal pelvis dilated, slight
	F7	Ureter dilated; Kidney underdeveloped, medulla absent, cavity enlarged
87D0968	M3, M4, M7, F2, F3	Normal
	F5, F7, F9, F10, F11	Normal

*Pup found dead

Appendix N-2 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F₂ GENERATION
 12.7 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0816	M1*, M5*	Normal
	M3, M4, M7	Normal
	F3, F4, F7	Normal
87D0820	M2*	Normal
87D0824	M3	Ureter dilated
	F5, F6	Normal
87D0852	M2*	Kidneys underdeveloped, medulla absent, cavity enlarged
	M4*, F1*, F3*	Normal
	F5*, F7*, F8*, F9*	Normal
	DF1	Normal
87D0856	M5, M7, M8	Normal
87D0874	M3	Ureter dilated
	F1, F5, F6, F7, F9	Normal
	DM1	Normal
87D0884	M2, M4, M6, M8, F3	Normal
87D0894	M4*	Brain lateral ventricle dilated, slight
	F3	Normal
	F4	Renal pelvis dilated, slight; Ureter dilated
	F7*	Tissue edema; Oviduct not straight

*Pup found dead

Appendix N-2 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F2 GENERATION
 12.7 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0896	M2* M3*,F3*,F4* M4* M5* F1* F2* F5* DM1	Renal pelvis dilated, moderate Normal Renal pelvis dilated, marked Renal pelvis dilated, moderate Cavity in lung Oviduct not straight Oviduct not straight Tissue adema
87D0898	M1*,F4* M2* F5,F6	Normal Renal pelvis dilated, slight Normal
87D0924	DF1	Normal
87D0932	M2* M4* M6* F1* F2* F3*	Renal pelvis dilated, marked Renal pelvis dilated, marked Renal pelvis dilated, marked Normal Renal pelvis dilated, moderate Renal pelvis dilated, marked
87D0934	M3,M4,M7,F5,F6	Normal

*Pup found dead

Appendix N-2 (Cont.)
 VISCERAL EXAMINATION OF CULLED AND DEAD PUPS
 F₂ GENERATION
 12.7 Nitroguanidine Animals

Maternal ID	Pup ID	Findings
87D0962	M1*	Renal pelvis dilated, marked; Spleen small
	M3*	Renal pelvis dilated, marked
	M4	Renal pelvis dilated, marked
	M5*	Kidney underdeveloped, medulla absent, cavity enlarged
	M6*	Renal pelvis dilated, moderate
	M7*	Renal pelvis dilated, marked; Spleen small
	M8*	Renal pelvis dilated, slight
	F2*	Renal pelvis dilated, marked
	F3*, F7*	Normal
	F4	Brain lateral ventricle dilated, slight;
		Renal pelvis dilated, slight
	F5*	Renal pelvis dilated, moderate
	F6*	Renal pelvis dilated, moderate
87D0976	M1, M7, M9, M10	Normal
	M2*, M4*, F1*	Normal

*Pup found dead